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DESCRIPTION: **Combined Modification Document -
Software Note 18
TCTO 31P1-4-108-599
EEM 6345.1 CHG 28, Chap 25
Open Radar Product Generator Group
(ORPG) Software Build 1.2**

DATE OF ISSUE: March 18, 2002

QUANTITY OF ISSUE: EACH

OPEN RADAR PRODUCT GENERATOR GROUP (ORPG) SOFTWARE BUILD 1.2

DOPPLER METEOROLOGICAL RADAR
WSR-88D

PUBLISHED UNDER AUTHORITY OF THE SECRETARIES OF
COMMERCE, THE AIR FORCE, THE NAVY, AND TRANSPORTATION

FAA APPROVAL

Digitally signed by James D. Pritchard
cn=James D. Pritchard, ou=AOS-200, o=National Airway
Engineering Systems Division, c=US
Date: 2002.03.14 10:28:02 -06'00'
Reason: FAA Signature Authority

_____ Date _____

Gregg W. Dvorak
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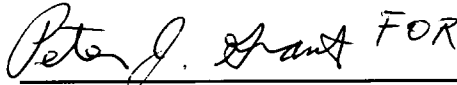
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_____ Date 3/18/02

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DoD APPROVAL:

BY ORDER OF THE SECRETARY OF THE AIR FORCE

JOHN P. JUMPER, General, USAF
Chief of Staff

_____ FOR _ Date 3/19/02

Edward L. Berkowitz, Chief
Programs Branch
Radar Operations Center
TOMA

1.   **SUBJECT**

Open Radar Product Generator (ORPG) Software Build 1.2.

2.   **PURPOSE**

The purpose of this modification is to provide instructions and software for loading the new ORPG Build 1.2 software. This document is issued as a result of a Radar Operation Center (ROC) Engineering Change Proposal (ECP) 0158, ORPG Software Build 1.2.

Specifically, ORPG Software Build 1.2 provides the following enhancements:

- Anomalous Propagation Removed (APR) adaptable parameter changes to improve the product for the FAA.

- Two new products, digital base velocity and digital base reflectivity.

- Class 1 product interface via the LAN connection to Automated Weather Interactive Processing System (AWIPS).

- Class 1 and Class 2 product interface via serial PPP connections for OPUP Spiral 1 and 2 Builds.

- Synchronization of RPG, Base Data Distribution Server (BDDS), and Master System Control Function workstation (MSCF) clocks with AWIPS. DoD and FAA: Clocks will synchronize up to the MSCF.

Upon completion of the software load, the following windows may be accessed to show some of the changes incorporated into the new build:

- RPG Control/Status (main HCI) window shows the software version number (e.g., `B1.2`) in the lower right corner of the screen. The software version is also distributed to all users in the General Status Message (GSM).

- HCI Product Distribution Comms Status window will have 40 lines instead of 24. For NWS sites, the AWIPS LAN interface will be line 25.

- For NWS sites, when the Cisco Router device is selected in the MSCF Comms Status window, a device name of `AWIPS LANOP` will be assigned to the "FastEthernet 1/0" port. Also, the OpStatus for this port will be up instead of down.

- Most sites will see parameter changes when the AP Removal Adaptation Item is selected in the "Algorithms" adaptable parameter window of the HCI. Some sites already had these adaptable parameter changes incorporated in B1.1.

For additional information concerning this document, contact the ROC Hotline, Norman, OK; phone number: (800) 643-3363 or (405) 366-2980 or by e-mail at NEXRAD.Hotline@noaa.gov. An electronic copy of this document can be found at the following internet address:
www.roc.noaa.gov/ssb/sysdoc/techman/tmlinks.asp

3.   SITES AFFECTED

See ATTACHMENT 5 for site effectivity.

4.   ESTIMATED COMPLETION DATE

This modification must be completed and reported no later than 60 days after receipt of this document.

5.   EQUIPMENT AFFECTED

Open Radar Product Generator Group.
Master System Control Function Workstation.
Base Data Distribution Server.

6.   SPARES AFFECTED

Not applicable.

7.   MODIFICATION ACCOMPLISHED BY

Site electronic systems analysts and/or electronics technician will accomplish this task. One technician is required to perform these procedures.

8.   MATERIAL REQUIRED

The following kit will be required to install Software Build 1.2. NWS sites that have a DoD MSCF will receive a separate kit for the DoD MSCF.

Nomenclature	Qty
CD-ROM, RPG Software Version 1.2	2
3.5 inch floppy disk, RPG Adaptation Data	1
CD-ROM, Electronic Performance Support system (EPSS) Version 1.1	1
Release Notes, Open RPG Build 1.0/1.1/1.2	1

9.   SOURCE OF MATERIALS

The items in paragraph 8 will be shipped to each site by the National Weather Service (NWS) ROC.

10.   SPECIAL TOOLS AND TEST EQUIPMENT REQUIRED

Not applicable.

11.   TIME AND PERSONNEL REQUIRED

Work Phases	Work-hours
Unpacking	0.0
Coordination/Backup	2.0
Installation	3.0
Assembly	0.0
Operational Check	0.5
Total Work-hours	5.5

12.   DOCUMENTS AFFECTED

a. EHB 6-526, Operations Instructions, Radar Product Generation (RPG), dated 1 August 2001.
NWS: EHB 6-526, Change 1
DoD: AF TO 31P1-4-108-451-1, Change 1
FAA: TI 6345.1 V50, Change 1

b. Guidance on Adaptable Parameters, dated August 1, 2001
NWS: WSR-88D Handbook Volume 4, ORPG, Change 1

13.   VERIFICATION STATEMENT

This modification was successfully installed at WSFO Little Rock, AR.

14.   DISPOSITION OF REMOVED AND REPLACED PARTS/MATERIALS

Not applicable.

15.   **PROCEDURES**

Perform the following procedures that apply for your site. NWS sites will also perform the procedures in ATTACHMENT 1, for each DoD related MSCF. It is expected that the ORPG, its corresponding MSCF, and corresponding BDDS (if applicable) will be loaded on the same date. If the MSCF and/or BDDS processors are located remotely from the ORPG, then it is imperative that a load date be agreed upon for all three systems by the affected maintainers. The MSCF location will require additional time prior to the load date to record site specific adaptable parameters.

The NEXRAD site Unit Radar Committee (URC) chairman must coordinates downtime with all dedicated users in accordance with Interagency NEXRAD Operation Memorandum of Agreement (MOA).

- ATTACHMENT 1, MSCF Software Build 1.2 Load Instructions

- ATTACHMENT 2, ORPG Software Build 1.2 Load Instructions

- ATTACHMENT 3, BDDS Software Build 1.2 Load Instructions

- ATTACHMENT 4, Snapshot Instructions (Can be performed 2 to 3 weeks prior to installation of Software Build 1.2)

16.   **FAA DISTRIBUTION**

This directive is distributed to selected offices and services within Washington headquarters, the William J. Hughes Technical Center, the Mike Monroney Aeronautical Center, regional Airway Facilities divisions, and Airway Facilities field offices having the following facilities/equipment: NXRAD.

17.   **CHANGES TO TABLE OF CONTENTS (FAA)**

This chapter will be included in the next revision to the table of contents for FAA Order 6345.1, Electronic Equipment Modification Handbook - Next Generation Weather Radar (NEXRAD).

To obtain additional copies of this publication, contact Printing and Distribution Team, AMI-700B, at (405) 954-3771.

18.   **RECOMMENDATIONS FOR CHANGES (FAA)**

Forward any recommendations for changes to this directive through normal channels to the National Airway Systems Engineering Division, AOS-200, Operational Support.

19.   **REPORTING INSTRUCTIONS**

   a. NWS

Report completed modification on WS Form A-26, Engineering Management Reporting System Maintenance Record, according to the instructions in Engineering Handbook No. 4 (EHB-4), Engineering Management Reporting System (EMRS), part 2 and Appendix G. Include the following information on the WS Form A-26:

- An Equipment Code of RPG in Block 7.

- The appropriate serial number in Block 8.

- A Mod No. of S18 in Block 17a.

See ATTACHMENT 7 for a completed sample of WS Form A-26.

   b. DoD

Update the AFTO Form 95 to show TCTO compliance. Report TCTO compliance in accordance with TO 00-20-2, Table 3-10, Rule 9.

   c. FAA

Enter this directive number, date, and chapter number on the appropriate FAA Form 6032-1, Airway Facilities Modification Record.

Use the Maintenance Management System (MMS) application Log Equipment Modification (LEM) function to report the completion of this modification. Verify N is in the REP COD field to ensure the log entry will be upward reportable to the national data base for access by AOS. This directive should be entered into the LEM fields as follows:

   (1) Order No.: 6345.1

   (2) Chapter: 25

   (3) Change: 28

d. DoD and FAA

Complete ATTACHMENT 6, and return the information to the ROC by one of the methods below:

(1) Mail Address: Program Branch, Retrofit Management Team
WSR-88D Radar Operations Center
3200 Marshall Ave., Suite 101
Norman, Oklahoma 73072-8028

(2) Fax Number: (405) 366-6553
ATTN: Retrofit Management Team

ATTACHMENT 1

MSCF SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Technical Manuals Required:

Maintenance Instructions, Radar Product Generator (RPG), dated August 1, 2001
NWS: EHB 6-525
DoD: AF TO 31P1-4-108-452-1
FAA: Order 6345.1 V49

Materials Required:

2 new 3 1/2-inch formatted floppy disk

Initial Conditions:

All of the procedures below must be performed in Superuser (root) mode and at the boot
console. (i.e., the console window at the MSCF workstation) and not from a remote network
session.

If the MSCF and/or the BDDS system is located remotely from the ORPG, the System
Administrator must coordinate the load date with the MSCF and BDDS locations to determine a
mutually agreed upon load date.

NOTES

The MSCF is the operating position for the WSR-88D radar. It is
assumed that this operator position is responsible for control and
changes to adaptable parameters for the RPG. There is not a
merge forward capability for RPG adaptation data at this time. The
merge forward capability is being worked in a future software build.
Hence, it is <u>imperative</u> the operator print all site unique
meteorological adaptable parameters under the Unit Radar
Committee (URC) and agency control. The following list of Build
1.1 GUI windows is provided as guidance on which parameter
windows are under URC and agency control. The ROC
recommends all windows on this list be printed to ensure there is a
hardcopy record of site unique parameters that must be carried
forward. <u>The initial Build 1.2 URC password will be reset to its
legacy RPG Build 10.1 value. If you do not know what is was for
build 10.1, call the WSR-88D hotline at (800)643-3363.</u>

A generic procedure is provided in ATTACHMENT 4 to show the operator how to capture and
print terminal/GUI windows. It is imperative the adaptation data screen captures and print
procedure be completed prior to loading Software Build 1.2. Listed below are the windows
containing URC/Agency controlled operational parameters:

Alert Threshold Editor - Grid
Alert Threshold Editor - Volume

ATTACHMENT 1 (Continued)

MSCF SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Alert Threshold Editor - Forecast
Edit Selectable Product Parameters - Contour Product
Edit Selectable Product Parameters - OHP/THP Data Levels
Edit Selectable Product Parameters - STP Data Levels
Edit Selectable Product Parameters - Cell Product
Edit Selectable Product Parameters - VAD and RCM Height
Edit Selectable Product Parameters - Layer Product
Edit Selectable Product Parameters - RCM Reflectivity Data Levels
Edit Selectable Product Parameters - Velocity Data Levels for Precip 16/0.97 Table
Edit Selectable Product Parameters - Velocity Data Levels for Precip 16/1.94 Table
Edit Selectable Product Parameters - Velocity Data Levels for Precip 8/0.97 Table
Edit Selectable Product Parameters - Velocity Data Levels for Precip 8/1.94 Table
Edit Selectable Product Parameters - Velocity Data Levels for Clear Air 16/0.97 Table
Edit Selectable Product Parameters - Velocity Data Levels for Clear Air 16/1.94 Table
Edit Selectable Product Parameters - Velocity Data Levels for Clear Air 8/0.97 Table
Edit Selectable Product Parameters - Velocity Data Levels for Clear Air 8/1.94 Table
Algorithms - Combined Shear
Algorithms - Hail Detection (2 Screens)
Algorithms - Hydromet Adjustment
Algorithms - Hydromet Preprocessing
Algorithms - Hydromet Rate
Algorithms - Mesocyclone
Algorithms - Storm Cell Components
Algorithms - Storm Cell Tracking
Algorithms - Tornado Detection (possible 2 screens)
Algorithms - VAD
Modify Precipitation Detection Parameters
Clutter Regions
Clutter Bypass Map Editor

Operational system status window should also be captured as a record of "overall health" of the system prior to the software load. The list of windows to be captured are:

RPG Control/Status
Product Distribution Comms Status
RPG Status (with `status` deselected to capture only system errors and alarms)
MSCF Comms Status for CISCO Switch, CISCO Router, and Router Card Status
MSCF BDDS HCI
MSCF Power Control Status

ATTACHMENT 1 (Continued)

MSCF SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

NOTES

If the following full system software load is aborted on the MSCF for any reason, all user accounts will be lost. Do not intentionally abort the load. If the load aborts for any reason, reestablish all user accounts In accordance with (IAW) EHB 6-525, Table 4–82 after the full software load is successfully completed. EHB 6-525, Table 4–82 has the necessary steps to also relink user accounts to the MSCF applications software so that all users can access the MSCF applications.

The full system load script will automatically backup user IDs and passwords should backup data from these account directories be restored later. The system full load script will also create new home directories for all users with the current environment file (.cshrc) in–place. Backup/restoral of user account data is not mandatory. However, if there are important logs or graphic screen captures stored in the user account directories and if these need to be retained, then backup the MSCF user account directories using the procedures specified in EHB 6-525 Table 4-61.

Step	Action/Procedure	Response/Comments
	NOTE	
	Steps 1 through 4 save the current Build 1.1 adaptation data to floppy. This floppy will not be needed again through these procedures. Only if Build 1.1 software is required to be reloaded will this floppy be needed. After the completion of step 4, mark the floppy with the date, Build 1.2 adaptation data, and site identifier. Store the disk in a safe location.	
1	Insert a new blank floppy disk.	This floppy will be used to save the MSCF and the RPG Build 1.1 adaptation data files.
2	At a terminal window prompt, enter: **save_adapt_floppy<CR>**	To save current MSCF adaptation data in case it is necessary to reload the previous build.
3	At the terminal window prompt, enter: **save_adapt_floppy -o rpg<CR>**	To save current RPG adaptation data in case it is necessary to reload the previous build.
4	If this is an MSCF off of an FAA redundant system, also enter: **save_adapt_floppy -o rpg2<CR>**	

ATTACHMENT 1 (Continued)

MSCF SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
5	When the normal prompt appears, manually press the button on the floppy drive to eject the floppy.	Ejects floppy.
6	Label the floppy disk with the following information: Build 1.1 Date the backup was made Site ID Store this floppy in a safe location.	This floppy disk **WILL NOT** be used again in these procedures. This floppy should only be used if Software Build 1.1 is reloaded.
	NOTE Steps 7 through 8 contain methods to halt a system in a normal manner. Should these methods not work (possible system corruption), attempt to halt the system by pressing the power key in the very upper right of the Sun keyboard (circle with vertical line) and clicking **Shutdown** on the Power Off Selection menu (wait 30 seconds). If that doesn't halt the system, press the **Standby** button on the front of the Ultra 5/10 processor assembly (below the green power LED) and wait 30 seconds. If the system still will not shutdown, use the power switch at the rear of the unit and power the processor off for five seconds and back on to reboot it. Then enter **Stop–A** after it starts to boot to stop the boot process. Then proceed to step 10.	
7	Exit out of Common Desktop Environment (CDE) by clicking **EXIT** on the CDE Control Panel and **OK** at the acknowledgement window.	Leave the CDE.
8	Push the power button on the front of the MSCF Processor.	Takes approximately 20 seconds to complete the shutdown. Halts the system and the system goes to an `ok` prompt.
9	Place the CD-ROM, RPG Software Version 1.2, into the CD–ROM drive and close the cradle.	
10	At the `ok` prompt, enter: **set–defaults<CR>**	This ensures all Non-Volatile Random Access Memory (NVRAM) settings are returned to default values.

ATTACHMENT 1 (Continued)

MSCF SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
11	At the `ok` prompt, enter: **boot cdrom<CR>**	This boots the CD–ROM disk. Some disk check errors may be noted; however, they are not relevant at this point. Disregard the `hsfs mount failed, trying ufs ...` message.
	NOTE If the load starts and it is then realized that an incorrect entry was made, let the software complete its load and then start this procedure over from the beginning. If the load is aborted while in progress, all user accounts will be lost.	

12	When the following options appear:
	
	`Choose System Type to Load:`
	`   1 RPG`
	`   2 MSCF`
	`   3 BDDS`
	`   4 Utilities`
	`Enter Numeric Selection from`
	`Above,`
	`q to Quit or ? for Help:`
	`[?,??,q]:`
	
	Enter:
	2<CR>
		Indicates `Installing MSCF System...`

13	When the following options appear:
	
	`A Distant MSCF connects to a DOD`
	`or FAA site. Is this a Distant`
	`MSCF?`
	`Yes or No [y,n,?,q]`
	
	Enter either **y<CR>** or **n<CR>**
		Enter "n" for an MSCF off of an NWS system. Otherwise, enter "y".

ATTACHMENT 1 (Continued)

MSCF SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments

14	The following options appear:
	
	`Please enter the radar's site`
	`call letters (type 'help' for`
	`list):`
	
	Enter the appropriate four letter site mnemonic and press **<CR>**. Enter **help<CR>** to see a list of site mnemonics if it is unclear about which mnemonic to use.
		System responds with the system type, network number, and netmask. For example:
		
		`System Type is: MSCF`
		`Network is: 172.25.171.0`
		`Subnet Mask is: 255.255.255.128`
		
		The installation will start and it will take approximately 35 minutes to complete.

15	When the following option appears:
	
	`Do you want to restore adaptation`
	`archive from CD or floppy for` *site*
	identification
	`Yes or No [y,n,?,q]`
	
	Enter:
	y<CR>	

16	When the following option appears:
	
	`Choose the adaptation archive`
	`media to restore from:`
	
	`1  Floppy`
	`2  CD (current install CD)`
	
	`Enter Numeric Selection from`
	`Above, q to Quit or ? for Help:`
	`[?,??,q]`
	
	Enter:
	1<CR>
		At this time, adaptation data can only be restored from a floppy. Use the floppy, titled "**RPG Adaptation Data**", provided in the kit.

17	When the following option appears: `Is the floppy in the Drive ready?` Insert the floppy disk, RPG Adaptation Data, and enter: **y<CR>**	System starts to mount floppy.

ATTACHMENT 1 (Continued)

MSCF SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments

18	When the following option appears:
	
	`Choose the adaptation file to restore:`
	`1. ./adapt0001..`*site specific info*
	`Enter Numeric Selection from Above,`
	`q to Quit or ? for Help: [?,??,q]`
	
	Enter:
	1<CR>
		The "site specific info" will consist of the site name and the date/time when the adaptation data file was created. Unless directed otherwise, always select the latest backup form the list.

	NOTES System time should be checked/set to ensure accurate system operation. Steps 19 and 20 provide guidance for performing this action prior to system reboot. The automated synchronization of the clocks will not work correctly if the clocks are more then 1000 seconds apart. When setting the time, ensure the time entered is within the 1000 second rule.	

19	When the following options appear:
	
	`MSCF Installation Done!`
	`Please [q]uit menu to reboot.`
	`Choose System Type to Load:`
	`1 RPG`
	`2 MSCF`
	`3 BDDS`
	`4 Utilities`
	`Enter Numeric Selection from`
	`Above,`
	`q to Quit or ? for Help:`
	`[?,??,q]:`
	
	Enter **4<CR>** to go into the Utilities Menu, then **1<CR>** to get to a shell prompt	

	NOTE For FAA and DoD the MSCF is the master clock. Set this time as accurately as possible. For NWS, go ahead and set the time. The MSCF will get the accurate clock time from the AWIPS.	

ATTACHMENT 1 (Continued)

MSCF SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
20	Verify the displayed date/time appears accurate within one minute. At the # prompt, enter **date<CR>** to redisplay a new date/time. If necessary, set the date/time (GMT) using the procedure in EHB 6-525, Table 4–76 starting at step 3. When completed, enter **exit<CR>** to return to the main load menu.	Allows check/set of system time prior to reboot.

21	When the following options appear:
	
	`Choose System Type to Load:`
	`    1 RPG`
	`    2 MSCF`
	`    3 BDDS`
	`    4 Utilities`
	`Enter Numeric Selection from`
	`Above,`
	`q to Quit or ? for Help:`
	`[?,??,q]:`
	
	Enter:
	q<CR>
		This will allow selection of a system reboot.

22	When the following option appears: `Do you want to reboot the system?` Enter: **y<CR>**	Menu will temporarily pop back up and then system reboots. On the first boot, a disk–type error may be noted on a non–existent disk (e.g., `/dev/dsk/c1t4d0s0`); however, this error is non–critical and will not occur on subsequent boots.
	NOTE The MSCF is now fully functional and applications are loaded/started. The remaining steps are for setting the root password and restoring user accounts if desired. Following completion of these procedures, log into CDE to start an MSCF display and an RPG HCI if desired.	
23	At the CDE login window, click and hold **Options** then select **Command Line Login**.	Will enable login as root outside of the CDE.

ATTACHMENT 1 (Continued)

MSCF SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
24	Enter a **<CR>**	Necessary to get to a Command Line Login prompt.
25	At the `node_name console login:` prompt, enter: **root<CR>**	At this point, the system will not prompt for a root password because it is not yet set at this time.
26	At the # prompt, enter: **eject cdrom<CR>** Remove CD–ROM and close cradle.	CD–ROM cradle opens.
27	At the # prompt, enter: **passwd<CR>**	The system prompts the user to enter a new password.
28	At the `New password:` prompt, enter the desired *root_password***<CR>**	The system prompts the user to re–enter the new password.
29	At the `Re-enter new password:` prompt, re–enter the desired *root_password***<CR>**	Indicates the password was successfully changed for root.
30	Insert the Electronic Performance Support System (EPSS) CD in the CD–ROM drive at this time.	
31	At the # prompt, enter: **cd /usr/local/bin<CR>**	Changes to the directory where local executables are stored.
32	At the # prompt, enter: **./install_epss.ksh<CR>**	Starts the script to install the EPSS.

33	When the message appears:
	
	`Do you want to install`
	`EPSS on this system's hard`
	`drive?`
	`Yes or No [y, n, ?,q]`
	
	Enter:
	y<CR>
		Installs the EPSS to provide on–line operator help screens (takes approximately 2 1/2 minutes). The EPSS icon (of an RDA tower and shelter with a question mark) will be placed on the left side of the Control Panel on the next login as a normal user.

34	At the # prompt, enter: **eject cdrom<CR>** Remove the CD–ROM and close the cradle.	CD–ROM cradle opens.

ATTACHMENT 1 (Continued)

MSCF SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
35	At the # prompt, enter: **eject<CR>** Remove the floppy from the floppy drive.	The floppy disk does not automatically eject from the floppy drive. Manually remove the floppy when prompted.
36	At the # prompt, enter: **exit<CR>**	System returns to the CDE login window after approximately 30 seconds.
37	Log into the CDE as a normal user.	When logging into the CDE at the MSCF, an MSCF Display should automatically start and it can be used to start an RPG HCI if desired. If the EPSS CD was loaded, take note of the EPSS icon on the Control Panel. Inform all users that this icon can be used to start the EPSS if needed. See the following NOTE for setting up a default CDE "look" and for customizing Netscape for EPSS viewing.
	NOTE All normal user accounts have been set up with a default CDE "look" which includes one console window, one terminal window, and one digital clock. Due to variances in monitor sizes and types, the user may need to rearrange these items on the desktop as desired for best viewing. When arranged as desired, then log out of CDE to save the new desktop "look". Inform all users that when they start the EPSS with the icon on the Control Panel, they should use Netscape's Edit Preferences option to set both the Fixed and Variable Width fonts to Application (Dt) Size 12. Refer to EHB 6–526 Operations Instructions for specific procedures concerning setup and use of the EPSS.	
38	At a terminal window prompt, enter: **remote_mscfserver<CR>**	This temporarily starts the Remote MSCF Server application which can later be used to display graphical MSCF windows at a "remote MSCF" location (e.g., the RDA RDA/RPG Remote Access Terminal (RRRAT)). At this point, it will only be temporarily started to set a password.

ATTACHMENT 1 (Continued)

MSCF SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
39	At the Remote MSCF Server application `Password:` prompt, enter the desired site–unique password. At the `Verify:` prompt, reenter the same password.	The site System Administrator will normally control this password. After setting the password, the Remote MSCF Server is not actually running. When actually needed for remote graphical access, it will be restarted through a remote terminal session. If it is not necessary to restore any backed–up user accounts (data only), then this procedure is complete. However, if it is necessary to restore user accounts (data only), continue with the final step.
40	ATTACHMENT 2 must be completed before verifying if the MSCF is operational. Since the RPG is currently running at Software Build 1.1, the MSCF will not read the new software.	
41	The MSCF is now operational. If the MSCF is not operational, call the ROC Hotline at (800)643-3363.	
42	Use the hard copies of each adaptable parameters window that were printed prior to the start of the load procedures. At the MSCF display, select each window and compare the current parameter values with those on the hard copies. If required, edit the values of the parameters to match the values on the hard copies. Edit instructions are provided in the Operator Handbook Guidance on Adaptable Parameters, dated February 15, 2002.	
43	Insert a new blank floppy disk.	This floppy will be used to save the MSCF and the RPG Build 1.2 adaptation data files.
44	At a terminal window prompt, enter: **save_adapt_floppy<CR>**	To save current MSCF adaptation data in case it is necessary to reload the previous build.
45	At the terminal window prompt, enter: **save_adapt_floppy -o rpg<CR>**	To save current RPG adaptation data in case it is necessary to reload the previous build.

ATTACHMENT 1 (Continued)

MSCF SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
46	If this is an MSCF off of an FAA redundant system, also enter: **save_adapt_floppy -o rpg2<CR>**	
47	When the normal prompt appears, manually press the button on the floppy drive to eject the floppy.	Ejects floppy.
48	Label the floppy disk with the following information: RPG Adaptation Data Build 1.2 Date the backup was made Site ID	
49	Send the new RPG Adaptation Data Build 1.2 floppy to the following address: Radar Operations Center Configuration Management 3200 Marshall Ave Norman, OK 73072-8028	

ATTACHMENT 2

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Tools Required:

Required items for router setup using a laptop computer

Laptop computer with available DB9 serial port
Windows 95 (or higher) Operating System and HyperTerminal software
Cisco Cable # 72–0876–01 or 72–1259–01
Cisco Cable Adapter # 74–0495–01 RJ45–DB9(F)
Copy of Local processor Hosts File

Required items for router setup using the RPGPCA

I/O Panel J8 Port
Cisco Cable # 72–0876–01 or 72–1259–01
* RJ45–DB25(F) adapter #2300027–301
Copy of Local processor Hosts File

* If this adapter is not available, it can be replaced by the RJ45–DB9(F) adapter
(Cisco 74–0495–01), DB9 male gender changer, and the 10 foot DB9(F)–DB25(M) serial
cable (Black Box EVMBMC–0010). If this combination is used, when referenced below, it
should be connected to I/O panel J7 instead of J8. Also, when activated with a tip session,
use `/dev/ cua/1` instead of `/dev/cua/3`.

Technical Manuals Required:

Maintenance Instructions, Radar Product Generator (RPG), dated August 1, 2001
NWS: EHB 6-525
DoD: AF TO 31P1-4-108-452-1
FAA: Order 6345.1 V49

Initial Conditions:

<u>**This paragraph applies only to NWS RPGs.**</u> NWS sites **MUST** ensure the LAN
cable is connected between the RPG and AWIPS. The LAN cable external to the
RPG cabinet is labeled W340 and was delivered with the RPG. Cable W340
connects to the back of the RPG I/O panel at CP6 and to the AWIPS Primary
PlainTree LAN Switch (LSW1) at port 3. If there are two RPGs at the site, the W340
cable for the 2nd RPG connects to the AWIPS Secondary PlainTree LAN Switch
(LSW2) at port 3. The LAN cable internal to the RPG cabinet is labeled W235 and
connects to the internal side of the I/O panel at CP6 and to the router on slot 1 at port
"FAST ETH 0" (e.g., A2A1 FAST ETH 0). When the LAN cables are connected and
the RPG router and AWIPS LAN switch are powered on, the router "LINK" LED for
slot 1 FAST ETH 0 is lit green. This light indicates a physical link has been
established with the AWIPS LAN switch port at the other end of the cable. If the cable
remains disconnected after this load procedure, the correct time will not be received

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

by the RPG router from AWIPS. The RPG router will send out an incorrect NTP packet causing the BDDS, RPG, and MSCF to have console window errors: `Dec 30 2:44:52 xntpd: time error -10306.13   is was too large (set clock manually)`.

All of the procedures below must be performed in Superuser (root) mode and at the boot console (i.e., the maintenance console in the RPG cabinet) and not from a remote network session.

NOTES

The MSCF is the operating position for the WSR-88D radar. If the MSCF is remote from the RPG, the load dates for the RPG and MSCF must be coordinated. The MSCF operator will require sufficient lead time to record and print all site unique meteorological adaptable parameter screens, site unique generation and distribution lists parameter screens, the authorized dial user list screen, and the dial-in port password screen. This data must be re-entered by the MSCF operator upon completion of the Build 1.2 load for both MSCF and RPG, because there is no merge forward capability for RPG adaptation data at this time.

If the following full system software load is aborted on the RPG for any reason, all user accounts will be lost. Do not intentionally abort the load. If the load aborts for any reason, reestablish all user accounts in accordance with NWS EHB 6-525, AF TO 31P1-4-108-452-1, and FAA Order 6345.1 V49, Table 4-82 after the full software load is successfully completed.

If this is being performed at the RPG workstation in the RPGPCA and there is a local BDDS installed, Raritan user channel 1 (RPG) must be selected. Activate mouse and use the on-screen menus to log in as **raritan<CR>** user (no password) or, if a screen saver is not active yet, press the **<Scroll Lock>** key twice quickly to activate the on-screen menus. Then select the RPG user channel.

Step	Action/Procedure	Response/Comments
1	At the terminal window prompt, enter: **save_adapt_floppy<CR>**	To save current adaptation data in case it is necessary to load the previous build.
2	Insert a new floppy and when prompted, enter: **<CR>**	
3	Manually press the button on the front of the floppy drive to eject the floppy disk.	Ejects the floppy disk.

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
	NOTES	
	The full system load script will automatically backup user IDs and passwords should backup data from these account directories be restored later. The system full load script will also create new home directories for all users with the current environment file (.cshrc) in place. Backup/restoral of user account data is not mandatory. However, if there are important logs or graphic screen captures stored in the user account directories and if these need to be retained, then backup the RPG user account directories using the procedures specified in EHB 6-525, Table 4-61.	
	Steps 4 through 6 contain methods to halt the system in a normal manner. Should these methods not work (possible system corruption), attempt to halt the system by pressing the power key in the very upper right of the Sun keyboard (circle with vertical line) and clicking **Shutdown** in the `Power Off Selection` menu (wait 30 seconds). If that doesn't halt the system, press the Standby button on the front of the Ultra 5/10 processor assembly (below green power LED) and wait 30 seconds. If the system still will not shutdown, use the power switch at the rear of the unit and power the processor off for five seconds and back on to reboot it. Then enter **<Stop>A** to stop the boot process.	
4	If at a CDE Login window or within the CDE with an active Screen Lock, proceed to step 6. If within the CDE and the screen can be unlocked, continue to the next step.	Applications software may still be running at this point; however, it is not relevant since all system software is being reloaded.
5	Exit out of Common Desktop Environment (CDE) by clicking **EXIT** on the CDE Control Panel and **OK** at the acknowledgement window.	Leave the CDE.
6	Push the power button on the front of the RPG processor.	No immediate response for approximately 50 seconds, then another 20 seconds to complete the shutdown. Halts the system and system goes to an `ok` prompt. Proceed to step 7.
7	Place the CD-ROM titled, RPG Software Version 1.2, in the CD-ROM drive and close the cradle.	
8	At the `ok` prompt, enter: **set-defaults<CR>**	Ensures all NVRAM settings are returned to default values.

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
9	At the `ok` prompt, enter: **boot cdrom<CR>**	Boots the CD-ROM disk. Some disk errors may be noted; however, they are not relevant at this point. Disregard the `hsfs mount failed, trying ufs...` message.

10	When the following option appears:
	
	`Choose System Type to Load:`
	`1   RPG`
	`2   MSCF`
	`3   BDDS`
	`4   Utilities`
	
	`Enter Numeric Selection from Above,`
	`q to Quit or ? for Help:`
	`[?,??,q]`
	
	Enter:
	1<CR>
		Indicates `Installing RPG System...`

NOTE		

NOTE

If this is not a FAA Redundant system the installation will start and take approximately 35 minutes to complete. Proceed to step 13. If this is an FAA Redundant system, continue to step 11.

Step	Action/Procedure	Response/Comments

11	When the following options appear:
	
	`Please enter the radar's site call letter (type 'help' for list):`
	
	Enter the appropriate four letter site mnemonic and press **<CR>**. Enter **help<CR>** to see a list of site mnemonics if it is unclear about which mnemonic to use.
	
	NWS and DoD: Proceed to step 13 while the software is loading.
	FAA: proceed to the next step.
		System responds with the system type, network number, and netmask. For example:
		
		`System Type is: RPG`
		`Network is: 172.25.171.0`
		`Subnet Mask is: 255.255.255.128`
		
		The installation will start and take approximately 35 minutes to complete.

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
12	**For FAA only:** Enter: **1<CR>** or **2<CR>** Proceed to next step while software is loading.	
13	While the software is loading, cycle the power switch off for five seconds and then back on at the rear of all three communication servers (UD70/170A15, A16 and A17).	This is necessary to allow for the communication servers to upload new internal operating software if it changed on the RPG processor as part of the new software load. The upload will not actually occur until the RPG processor itself is booted in subsequent steps (but still before the RPG applications software starts).

14	When the following option appears:
	
	`Do you want to restore an`
	`adaptation archive from CD or`
	`floppy for SITE NAME?`
	
	`Yes or No [y,n,?,q]`
	
	Enter:
	y<CR>
		`SITE_NAME` is the site being loaded at the time (site mnemonic).

15	When the following option appears:
	
	`Choose the adaptation archive`
	`media to restore from:`
	
	`1  Floppy`
	`2  CD (current install CD)`
	
	`Enter Numeric Selection from`
	`Above, q to Quit or ? for Help:`
	`[?,??,q]`
	
	Enter:
	1<CR>
		At this time, adaptation data can only be restored from a floppy. Use the floppy disk titled, "RPG Adaptation Data", provided in the kit.
		
		Floppy selected.

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments

16	When the following option appears:
	
	`Is the floppy in the drive and ready?`
	
	`yes or No [y,n,?,q]`
	
	Insert the adaptation floppy in the floppy drive and then enter:
	y<CR>
		System starts to mount floppy.

17	When the following option appears:
	
	`Trying to mount floppy...`
	
	`Choose the adaptation file to restore:`
	
	`1  ./adapt00001.`*site specific info*
	`2  ./adapt00001.`*site specific info*
	`3  "`
	`4  "`
	`5  etc.`
	
	`Enter numeric selection from Above,`
	`q to Quit for ? for Help: [?,??,q]`
	
	Enter **#<CR>** (1 or 2, depending on channel being loaded)
		The *site specific info* will consist of the site name and the date/time when the adaptation data file was created. Unless directed otherwise, always select the latest backup from the list.

NOTES

System time should be checked/set to ensure accurate system operation. Steps 18 and 19 provide guidance for performing this action prior to system reboot. In NWS configurations the clock will be synchronized with AWIPS. DoD and FAA configurations, the clock will be synchronized with the MSCF.

The automated synchronization of the clocks will not work correctly if the clocks are more then 1000 seconds apart. When setting the time, ensure the time entered is within the 1000 second rule.

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments

18	When the following option appears:
	
	`Adaptation data successfully`
	`received from media`
	
	`RPG Installation Done!`
	`Please [q]uit menu to reboot.`
	
	`Choose System Type to Load:`
	`    1  RPG`
	`    2  MSCF`
	`    3  BDDS`
	`    4  Utilities`
	
	`Enter Numeric Selection from`
	`Above, q to Quit or ? for`
	`Help:  [?,??,q]:`
	
	Enter **4<CR>** to go into the Utilities Menu, then enter **1<CR>** to get to a shell prompt.
		If "n" was entered in step 14, the system will actually indicate that the adaptation data restoral was skipped.

19	Verify the displayed date/time appears accurate within one minute. At the # prompt, enter **date<CR>** to redisplay a new date/time. If necessary, set the date/time (GMT) using the procedures in EHB 6-525, Table 4-76 starting at step 3. When completed, enter **exit<CR>** to return to the main load menu.	Allows check/set system time prior to reboot.

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments

20	When the following option appears:
	
	`Choose System Type to Load:`
	`    1  RPG`
	`    2  MSCF`
	`    3  BDDS`
	`    4  Utilities`
	
	`Enter Numeric Selection from`
	`Above, q to Quit or ? for`
	`Help:  [?,??,q]:`
	
	Enter:
	q\<CR\>
		This will allow selection of a system reboot.

21	Enter **y\<CR\>** to the following question: `Do you want to reboot the system?`	Menu will temporarily pop back up and then system reboots. On the first boot, a disk-type error may be noted on a non-existent disk (e.g., `/dev/dsk/c1t4d0s0`); however, this error is non-critical and will not occur on subsequent boots.
NOTE The RPG is now fully functional and applications are loaded/started. No further interaction is required for the RPG to actually perform its prime functions. The remaining steps are for setting the root password and restoring user accounts if desired.	
22	At the CDE login window, click and hold **Options** then select **Command Line Login**	Will enable login as root outside of the CDE
23	Enter a **\<CR\>**	Necessary to get to a Command Line Login prompt.
24	At the `node_name console login:` prompt, enter: **root\<CR\>**	At this point, the system will not prompt for a root password because it is not yet set at this time.
25	At the # prompt, enter: **eject cdrom\<CR\>** Remove the CD-ROM, close the cradle, and store the CD-ROM. Also, manually eject the adaptation data floppy if it was used	CD-ROM cradle opens.

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
26	At the # prompt, enter: **eject<CR>** When prompted, manually eject the adaptation data floppy.	The floppy disk does not automatically eject from the floppy drive. Manually remove the floppy when prompted.
27	At the # prompt, enter: **passwd<CR>**	The system prompts the user to enter a new password.
28	At the New password: prompt, enter the *desired root password***<CR>**	The system prompts the user to re-enter the new password.
29	At the Re-enter new password: prompt, re-enter the desired *root password***<CR>**	Should indicate the password was successfully changed for root.
30	At the # prompt, enter: **exit<CR>**	System returns to the CDE login window after approximately 30 seconds. If it is not necessary to restore any backed-up user accounts (data only), then this procedure is theoretically complete; however, the following note provides information for setting up the CDE look, should the user decide to log in through a normal user account into the CDE. If it is necessary to restore user accounts (data only), continue with the final step.
31	At the RPG processor, if a CDE Desktop Login screen is presented, login as the normal user to check the HCI.	
32	The ORPG is now operational. If the ORPG is not operational, call the ROC Hotline at (800)643-3363.	
NOTE Using the Laptop Computer for setup: The Router has AC power supplied. Using the Radar Product Generation Processor Communications Assembly (RPGPCA) for setup: The Router (UD70A2) is installed and connected to the LAN Switch (UD70A13) in its normal manner. The RPG processor is fully loaded, operational and connected to the LAN Switch (UD70A13) in its normal manner within the RPGPCA cabinet UD70.	

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
	NOTE	
	The next step requires input of the site specific TFTP address. If this number is not easily available, enter **more /etc/hosts<CR>** and log in TFTP address below before staring with the next step. TFTP address: tftp://172.25._____.1	
33	If using a laptop computer to setup the Cisco 3640 Router, begin at step 34. If using the RPGPCA, skip to step 35.	
34	Router and Laptop Computer Setup.	See Tools Required list a the beginning of ATTACHMENT 2.
	a. Plug the Cisco cable into the CON port at the front of the Cisco 3640 Router.	
	b. Attach the RJ45–DB9(F) cable adapter to the free end of the Cisco cable.	
	c. Plug the cable adapter into the serial port of the laptop computer.	
	d. Power On the Laptop (if necessary). Bring up the Windows 95 (or higher) Desktop at the laptop.	
	e. Open HyperTerminal connection at the laptop from the Windows 95 (or higher) desktop by click **Start**, **Programs**, **Accessories, Communications**, then the **HyperTerminal** Folder	
	f. The `HyperTerminal Folder` opens as a window.	
	NOTE	
	If this procedure has been performed before with this laptop, double–click the **router.ht** icon within the HyperTerminal Folder and skip to step 34.m., otherwise continue with this step.	
	g. Double–click the **Hypertrm.exe** icon to open the program.	

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
	h. A window called `Connection Description` appears. Click in the `Name Block` then enter: **router<CR>**	
	i. A window called `Phone Number` opens. Change the `Connect using` block to **Direct to Com 1**. Click **OK** to accept.	
	j. A `Com1 Properties` window opens. Use the mouse and the scroll bar as necessary to select the following port settings: `Bits per second`: **96ØØ** `Data bits`: **8** `Parity`: **None** `Stop bits`: **2** `Flow control`: **None**	
	k. Click **OK** to accept.	
	l. Click **File** and then **Save** for the HyperTerminal file created in steps 34.h. through 34.l.	This creates an icon in the HyperTerminal Folder for future use. It is called `router.ht`.
	m. In the hyperterminal window, enter: **<CR>** several times to establish the connection.	A prompt should appear.
	n. Skip to step 36 to complete the configuration procedure.	
35	Router setup procedures using the router and RPGPCA setup:	See Tools Required list a the beginning of ATTACHMENT 2.
	a. Plug the Cisco cable into the CON port at the front of the Cisco 3640 Router.	
	b. Attach the RJ45–DB25(F) adapter to the free end of the Cisco cable.	
	c. Plug the free end of the RJ45–DB25(F) adapter into the I/O Panel J8 port.	
	d. For NWS Sites to access the RPG processor:	

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
	(1). Depressing the **<Scroll Lock>** button twice on the keyboard will cause the `Login Menu` or the `Selection Menu` to appear on the monitor.	
	(2). If a `Login` menu appears, continue with this step, otherwise continue to step 35.d.(3). Enter **raritan<CR>** for the user (no password). The `Selection Menu` will appear on the monitor.	
	(3). Under normal conditions, the RPG processor is `Channel 1`, the BDDS processor is `Channel 2`, and KBD Failure is `Channel 3`.	
	(4). Using the ↑ and ↓ keys on the keyboard highlight the RPG channel. Press **<CR>** to invoke the selection.	
	e. At the RPG processor, if a CDE Desktop Login screen is presented, login as the normal user.	
	f. At a prompt in the terminal window, enter: **tip –96ØØ /dev/cua/3<CR>**	
	g. After the `connected` feedback appears, enter a **<CR>** to finish establishing the connection.	A prompt should appear.
	h. Continue with step 36 to complete the configuration procedure.	
	NOTE For simplicity with this procedure the possible *hostname* (**rtr***,* **rtr1***,* or **rtr2**) is referred to as `rtr` for the remainder of this procedure. When an entry requires the router *hostname*, the user needs to enter the appropriate hostname as directed by the procedure.	
36	If prompted, enter: *site–selected–password* If this is a new box that may have been previously tested by NRC, it will either have no password set for the CONSOLE port or will use a default password of **cisco**.	

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
37	At the `rtr>` prompt enter: **enable\<CR\>**	
38	If prompted, enter: *site–selected–password* If this is a new box that may have been previously tested by NRC, it will either have no password set for the "enable" level or will use a default password of **cisco**.	
CAUTION		
	Upon completion of steps 39 through 41, if power is removed without successful completion of steps 42 through 47 the firmware within the Router will become corrupted (signified by a `router:` prompt) and a new Router must be ordered.	
39	At the rtr# prompt, enter: **erase startup–config\<CR\>**	`Erasing the nvram filesystem will remove all files! Continue? [confirm]` will be displayed.
40	Enter a **\<CR\>**	`[OK]` will appear.
41	Wait for feedback: `Erase of nvram: complete` and the `rtr#` prompt reappears.	
42	Enter: **copy tftp://172.25.===.1/c364Ø.bin flash:\<CR\>** Enter the correct subnet referencing the hosts file.	The IP address is the RPG processor IP Address and === is the site–specific subnet number. `Destination filename[c3640.bin]?` will appear. Refer to note before step 33 for the site-specific subnet ID.
43	Enter a **\<CR\>**	
44	When the following message appears: `%Warning:There is a file already existing with this name Do you want to over write? [confirm]` Enter a **\<CR\>**	

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments

45	When the following message appears:
	
	`Accessing tftp://172.25.===.1/`
	`c3640.bin...`
	`Erase flash: before copying?`
	`[confirm].`
	
	Enter a **\<CR\>**	

46	When the following message appears:
	
	`Erasing the flash filesystem will`
	`remove all`
	`files! Continue? [confirm]`
	
	Enter a **\<CR\>**
		The message `Erasing device...` will be displayed.

47	Wait for approximately 30 seconds while the older file is erased and newer file loads. Ensure the `Verifying checksum...OK` message appears followed by the prompt before cycling power in the next step. If `Verifying checksum...OK` does not appear, repeat steps 42 through 47 before continuing.	
48	Cycle power to the Router (A2) by manually turning the power switch Off/On.	Once power is returned to the Router, it reloads the default software. When complete, the last line of feedback states: `--- System Configuration Dialog ---.`
NOTE		
Throughout this procedure, the Router state is changed and feedback messages are presented while the user is trying to complete entries. To return to an entry prompt, press **\<CR\>**.		

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
49	When the following message appears: `Would you like to enter initial configuration dialog? [yes/no]:.` Enter: **n<CR>**	
50	If the following feedback line appears: `Would you like to terminate autoinstall? [yes]:` Continue to next step, otherwise skip to step 52.	
51	Enter a **<CR>**	
52	The message `Press RETURN to get started:` will be displayed. Numerous state change messages will be noted at this time. Wait approximately 30 seconds until the messages stop displaying before continuing.	
53	Enter a **<CR>**	The `Router>` prompt appears.
54	At the `Router>` prompt, enter: **enable<CR>**	The prompt changes to `Router#`.
55	At the `Router#` prompt, enter: **config t<CR>**	The prompt changes to `Router(config)#`.
56	Enter: **bridge irb<CR>**	
57	Enter: **bridge 1 protocol ieee<CR>**	
58	Enter: **bridge 1 route ip<CR>**	
59	Enter: **int bvi1<CR>**	The prompt changes to `Router(config-if)#`.
NOTE		
State Changes may be noted. When state change messages stop, enter: **<CR>** to continue.		

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
60	Enter the IP address command string, dependent on system and/or channel.	
61	Single channel or FAA Redundant Channel 1 enter: **ip address 172.25.===.7 255.255.255.128<CR>**	Where **===** is the site–specific subnet ID (see hosts file). Refer to note before step 33 for the site-specific subnet ID.
62	FAA Redundant Channel 2 enter: **ip address 172.25.===.77 255.255.255.128<CR>**	Where **===** is the site–specific subnet ID (see host file). Refer to note before step 33 for the site-specific subnet ID.
63	At the `Router(config-if)#` prompt: Enter: **exit<CR>**	Prompt changes to `Router(config)#`.
64	Configure the Ethernet port by performing the following steps:	
	a. Enter: **int fØ/Ø<CR>**	The prompt changes to `Router(config-if)#`.
	b. Enter: **bridge–group 1<CR>**	
	c. Enter: **no shutdown<CR>**	Wait about 30 seconds for the router to change its status.
	NOTE State Changes may be noted. When state change messages stop, enter: **<CR>** to continue.	
	d. Enter: **end<CR>**	The prompt changes to `Router#`.
	e. When the message appears: `Configured from console by console.` Enter: **<CR>**	
	f. Enter: **write mem<CR>** to save the entries.	Wait a few seconds for the router to update and the Router# prompt to return.

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
65	At the `Router#` prompt, enter: **copy tftp running–config<CR>**	Feedback: `Address or name of remote host []?` will appear.
66	For single channel or FAA Redundant Channel 1 enter: **172.25.===.1<CR>**	Where === is the site–specific subnet ID (see hosts file).
67	For FAA Redundant Channel 2 enter: **172.25.===.71<CR>**	Where === is the site–specific subnet ID (see hosts file).
68	When the message appears: `Source filename []?` Enter: **rtr–template<CR>**	
69	When the message appears: `Destination filename [running-config]?` Enter: **<CR>**	
70	The router proceeds with the upload. Error messages noted for non–installed modules are normal. Also, link state change messages may be noted. When complete, a `rtr#` prompt appears (may need to enter: **<CR>** to return to a prompt). Prompt would be `rtr1#` for an FAA redundant channel 1 system, or `rtr2#` for FAA redundant channel 2.	
71	Enter: **copy tftp running–config<CR>**	Message `Address or name of remote host []?` appears.
72	For single channel or FAA Redundant Channel 1, enter: **172.25.===.1<CR>**	Where === is the site–specific subnet ID (see hosts file).
73	For FAA Redundant Channel 2, enter: **172.25.===.71<CR>**	Where === is the site–specific subnet ID (see hosts file).

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
74	When the message below appears `Source filename [rtr-template]?` Depending on user's agency, enter: **faa–specific<CR>** or **dod–specific<CR>** or **nws–specific<CR>**	

75	When the message below appears:
	
	`Destination filename [running-`
	`config]?`
	
	Enter:
	<CR>	

76	The router proceeds with the upload. Error messages noted for non–installed modules are normal. Also, link state change messages may be noted. When complete, a `rtr#` prompt appears (may need to enter: **<CR>** to return to a prompt). Prompt would be `rtr1#` for an FAA redundant channel 1 system, or `rtr2#` for FAA redundant channel 2.	
	NOTE Several passwords are assigned for the Router's various ports. To make the management of these passwords simpler for the user, using the same *site–selected–password* is suggested.	
77	Enter: **config t<CR>**	The prompt changes to `rtr(config)#.`
78	Enter: **no enable password<CR>**	
79	Enter: **service password–encryption<CR>**	
80	Enter: **enable password** *site–selected–password***<CR>** Make note of the password for future use.	

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
81	Enter: **line vty Ø 4<CR>**	
82	Enter: **login<CR>**	
83	Enter: **password** *site–selected–password***<CR>** Make note of the password for future use.	
84	Enter: **line con Ø<CR>**	
85	Enter: **login<CR>**	
86	Enter: **password** *site–selected–password***<CR>** Make note of the password for future use.	
87	Enter: **line aux Ø<CR>**	
88	Enter: **login<CR>**	
89	Enter: **password** *site–selected–password***<CR>** Make note of the password for future use.	
90	Enter: **exit<CR>**	
91	Enter: **no service password–encryption<CR>**	
92	Enter: **end<CR>**	
93	When the message below appears: `Configured from console by console.` Enter: **<CR>**	

ATTACHMENT 2 (Continued)

ORPG SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	Action/Procedure	Response/Comments
94	Enter: **write mem<CR>** to save the entries.	
95	Enter: **exit<CR>** to exit.	
96	If using a laptop to configure the Router, continue to step 97. If using the RPGPCA then skip to step 99.	
97	Click on the **X** in the upper–right–hand corner on both open HyperTerminal windows to shut the HyperTerminal session down.	
98	Click **yes** to disconnect and **yes** to save the session, if presented with these options. Skip to step 100.	
99	Enter: **~ .** (tilde–dot) to exit the tip session.	`EOT` is displayed.
100	Unplug the data cable from the laptop (or I/O Panel J8 Port) and Cisco Router that was connected at the beginning of this procedure.	
101	This completes the setup procedure.	
102	Now that the RPG is loaded, the adaptation data can now be reverified and changed per the screen captures taken in ATTACHMENT 4.	

ATTACHMENT 3

BDDS SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Technical Manuals Required:

Maintenance Instructions, Radar Product Generator (RPG), dated August 1, 2001
NWS: EHB 6-525
DoD: AF TO 31P1-4-108-452-1
FAA: Order 6345.1 V49

Initial Condition

All of these procedures must be performed in Superuser (root) mode. Also, all of these procedures must be performed at the boot console and not from a remote network session.

NOTE

> If the following full system software load is aborted on the BDDS for any reason, all user accounts will be lost. Do not intentionally abort the load. If the load aborts for any reason, reestablish all user accounts IAW EHB 6-525, Table 4–82 after the full software load is successfully completed. If this is a new replacement processor or fixed disk, user accounts must also be reestablished after the load IAW EHB 6-525, Table 4–82.

Step	ACTION/PROCEDURE	RESPONSE/COMMENTS
	NOTES	
	If this is being performed at a local BDDS workstation (installed in RPGPCA cabinets), Raritan user channel 2 (BDDS) must be selected. Activate mouse and use the on–screen menus to log in as **raritan<CR>** user (no password) or, if a screen saver is not active yet, hit the **<Scroll Lock>** key twice quickly to activate the on–screen menus. Then select the BDDS user channel.	
	The full system load script will automatically backup user IDs and passwords should backup data from these account directories be restored later. The system full load script will also create new home directories for all users with the current environment file (.cshrc) in–place so backup/restoral of user account data is not mandatory.	

ATTACHMENT 3 (Continued)

BDDS SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	ACTION/PROCEDURE	RESPONSE/COMMENTS
	NOTE	
	Steps 1 through 3 contain methods to halt a system in a normal manner. Should these methods not work (possible system corruption), attempt to halt the system by pressing the power key in the very upper right of the Sun keyboard (circle with vertical line) and clicking **Shutdown** on the Power Off Selection menu (wait 30 seconds). If that doesn't halt the system, press the Standby button on the front of the Ultra 5/10 processor assembly (below green power LED) and wait 30 seconds. If the system still will not shutdown, use the power switch at the rear of the unit and power the processor off for five seconds and back on to reboot it. Then enter **<Stop–A>** after it starts to boot to stop the boot process. Then proceed to step 5.	
1	If at a CDE Login window proceed to step 3. If within the CDE continue with the next step.	
2	Exit out of Common Desktop Environment (CDE) by clicking **EXIT** on the CDE Control Panel and **OK** at the acknowledgement window.	Leave the CDE.
3	Push the power button on the front of the BDDS Processor. Proceed to step 5.	Takes approximately 20 seconds to complete the shutdown. Halts the system and the system goes to an "ok" prompt.
4	If the system was powered off, then power the system on, and enter **<Stop>A** (i.e., simultaneously press the <Stop> and A keys) when the system starts to boot.	An `ok` prompt will appear.
5	Place the system software distribution disk in the CD–ROM drive and close the cradle.	
6	At the `ok` prompt, enter: **set–defaults<CR>**	This ensures all NVRAM settings are returned to default values.
7	At the `ok` prompt, enter: **boot cdrom<CR>**	This boots the CD–ROM disk. Some disk check errors may be noted; however, they are not relevant at this point. Disregard the `hsfs mount failed, trying ufs ...` message.

ATTACHMENT 3 (Continued)

BDDS SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	ACTION/PROCEDURE	RESPONSE/COMMENTS
	NOTE	
	If the load starts and it is then realized that an incorrect entry was made, let the software complete its load and then start this procedure over from the beginning. If the load is aborted while in progress, all user accounts will be lost.	

8	When the following options appear:
	
	`Choose System Type to Load:`
	`    1 RPG`
	`    2 MSCF`
	`    3 BDDS`
	`    4 Utilities`
	`Enter Numeric Selection from`
	`Above,`
	`q to Quit or ? for Help:`
	`[?,??,q]:`
	
	Enter:
	3<CR>
		Indicates `Installing BDDS`
		`System...`

9	When the following option appears:
	
	`Please enter the radar's site`
	`call letters (type 'help' for`
	`list):`
	
	Enter the appropriate four letter site mnemonic and press **<CR>**. Enter **help<CR>** to see a list of site mnemonics if it is unclear about which mnemonic to use.
		System responds with the system type, network number, and netmask. For example:
		
		`System Type is: BDDS`
		`Network is: 172.25.171.0`
		`Subnet Mask is: 255.255.255.128`
		
		The installation will start and it will take approximately 30 minutes to complete.

	NOTE	
	System time should be checked/set to ensure accurate system operation. Steps 10 and 11 provide guidance for performing this action prior to system reboot.	

ATTACHMENT 3 (Continued)

BDDS SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	ACTION/PROCEDURE	RESPONSE/COMMENTS
10	When the following options appear: ``` BDDS Installation Done! Please [q]uit menu to reboot. Choose System Type to Load: 1 RPG 2 MSCF 3 BDDS 4 Utilities Enter Numeric Selection from Above, q to Quit or ? for Help: [?,??,q]: ``` Enter **4<CR>** to go into the Utilities Menu, then enter **1<CR>** to get to a shell prompt when the following options appear:	
	NOTES Perform the next step even though the BDDS will synchronize with the AWIPS for NWS, or MSCR for DoD, and FAA. The automated synchronization of the clocks will not work correctly if the clocks are more then 1000 seconds apart. When setting the time, ensure the time entered is within the 1000 second rule.	
11	Verify the displayed date/time appears accurate within one minute. At the # prompt, enter **date<CR>** to redisplay a new date/time. If necessary, set the date/time (GMT) using the procedure in EHB 6-525, Table 4–76 starting at step 3. When completed, enter **exit<CR>** to return to the main load menu.	Allows check/set of system time prior to reboot.

ATTACHMENT 3 (Continued)

BDDS SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	ACTION/PROCEDURE	RESPONSE/COMMENTS

12	When the following options appear:
	
	`Choose System Type to Load:`
	`   1 RPG`
	`   2 MSCF`
	`   3 BDDS`
	`   4 Utilities`
	`Enter Numeric Selection from`
	`Above,`
	`q to Quit or ? for Help:`
	`[?,??,q]:`
	
	Enter:
	q<CR>
		This will allow selection of a system reboot.

13	When the following options appear:
	
	`Do you want to reboot the`
	`system?`
	
	Enter:
	y<CR>
		Menu will temporarily pop back up and then system reboots. On the first boot, a disk–type error may be noted on a non–existent disk (e.g., `/dev/dsk/c1t4d0s0`); however, this error is non–critical and will not occur on subsequent boots.

	NOTE The BDDS is now fully functional and applications are loaded/started. No further interaction is required for the BDDS to actually perform its prime function. The remaining steps are for setting the root password and restoring user accounts if desired.	
14	At the CDE login window, click and hold **Options** then select **Command Line Login**.	Will enable login as root outside of the CDE.
15	Enter a **<CR>**	Necessary to get to a Command Line Login prompt.
16	At the `node_name console login:` prompt, enter: **root<CR>**	At this point, the system will not prompt for a root password because it is not set at this time.
17	At the # prompt, enter: **eject cdrom<CR>** Remove CD–ROM and close cradle.	CD–ROM cradle opens.

ATTACHMENT 3 (Continued)

BDDS SOFTWARE BUILD 1.2 LOAD INSTRUCTIONS

Step	ACTION/PROCEDURE	RESPONSE/COMMENTS
18	At the # prompt, enter: **passwd<CR>**	The system prompts the user to enter a new password.
19	At the `New password:` prompt, enter the desired *root_password***<CR>**	The system prompts the user to re–enter the new password.
20	At the `Re-enter new password:` prompt, re–enter the desired *root_password***<CR>**	Should indicate that the password was successfully changed for root.
21	At the # prompt, enter: **exit<CR>**	System returns to the CDE login window after approximately 30 seconds. If it is not necessary to restore any backed–up user accounts (data only), then this procedure is theoretically complete; however, the following Note provides information for setting up the CDE "look" when logging into a normal user account and into the CDE. If it is necessary to restore user accounts (data only), continue with the final step.
	NOTE All normal user accounts have been set up with a default CDE "look" which includes one console window, one terminal window, and one digital clock. Due to variances in monitor sizes and types, the user may need to rearrange these items on the desktop as desired for best viewing. When arranged as desired, log out of CDE to save the new desktop "look".	
22	The BDDS is now operational. If the BDDS is not operational, call of ROC Hotline at (800)643-3363.	

ATTACHMENT 4

SNAPSHOT INSTRUCTIONS

Snapshot is an application that runs on each of the Sun processors used with any RPG. It is a graphics capture program that will, in effect, take a picture of any window, region, or screen that is in view on any workspace of the processor. The images can then be edited, printed or saved to disk. Snapshot can be used to make visual records of graphical images such as screen anomalies and adaptation data.

The following procedures assumes that when directed to "click" on an item, it is referring to the left mouse button, unless directed differently. The phrase "button 1" also refers to the left mouse button.

The adaptation data and status windows print procedure is to be completed prior to loading Software Build 1.2. This procedure can be accomplished 2 to 3 weeks prior to the loading of Build 1.2 software. This section of the attachment lists each window to be captured and printed, and describes how to access each window. This section is divided into two areas - Adaptable Parameters and Operational Status.

<u>**Adaptable Parameter Windows**</u>
The parameter windows to be printed are a subset of those with URC/Agency level of control. The majority of adaptable parameter windows are accessed from the RPG Control/Status window (RPG HCI). Click on the **RPG HCI** button from the `Master System Control Functions (MSCF)` window. In the `RPG Control/Status` window, click on **Products** within the RPG area. A popup window titled `RPG Products` will appear. This popup window has buttons for Alert/Threshold, Selectable Parameters, and Algorithms. Click on these buttons to access each parameter window indicated below:

<u>**Parameter windows accessed via the Alert/Threshold button:**</u>
      Alert Threshold Editor - Grid
      Alert Threshold Editor - Volume
      Alert Threshold Editor - Forecast

<u>**Parameter windows accessed via the Selectable Parameters button:**</u>
      Edit Selectable Product Parameters - Contour Product
      Edit Selectable Product Parameters - OHP/THP Data Levels
      Edit Selectable Product Parameters - STP Data Levels
      Edit Selectable Product Parameters - Cell Product
      Edit Selectable Product Parameters - VAD and RCM Height
      Edit Selectable Product Parameters - Layer Product
      Edit Selectable Product Parameters - RCM Reflectivity Data Levels
      Edit Selectable Product Parameters - Velocity Data Levels for Precip 16/0.97 Table
      Edit Selectable Product Parameters - Velocity Data Levels for Precip 16/1.94 Table
      Edit Selectable Product Parameters - Velocity Data Levels for Precip 8/0.97 Table
      Edit Selectable Product Parameters - Velocity Data Levels for Precip 8/1.94 Table
      Edit Selectable Product Parameters - Velocity Data Levels for Clear Air 16/0.97 Table
      Edit Selectable Product Parameters - Velocity Data Levels for Clear Air 16/1.94 Table
      Edit Selectable Product Parameters - Velocity Data Levels for Clear Air 8/0.97 Table
      Edit Selectable Product Parameters - Velocity Data Levels for Clear Air 8/1.94 Table

ATTACHMENT 4 (Continued)

SNAPSHOT INSTRUCTIONS

Parameter windows accessed via the Algorithms button:
Algorithms - Combined Shear
Algorithms - Hail Detection (2 Screens)
Algorithms - Hydromet Adjustment
Algorithms - Hydromet Preprocessing
Algorithms - Hydromet Rate
Algorithms - Mesocyclone
Algorithms - Storm Cell Components
Algorithms - Storm Cell Tracking
Algorithms - Tornado Detection (possible 2 screens)
Algorithms - VAD

Modify Precipitation Detection Parameters
From the RPG HCI, click on the precipitation category to the right of `Precip Cat:`. The `Precipitation Status` window will appear in a few seconds. Click on the **Modify Parameters** button of the `Precipitation Status` window and the `Modify Precipitation Detection Parameters` windows appears.

Clutter Regions (options for each operator defined region)
From the RPG HCI, click the **Clutter Regions** button on the right hand applications panel.

Clutter Bypass Map Editor
From the RPG HCI, click the blue **Clutter Bypass Map Editor** button on the right hand applications panel.

Operational Status Windows
Operational status windows should be printed to show the "overall health" of the system and user connections before the software load.

RPG Control/Status
The RPG Control/Status window is the RPG HCI.

Product Distribution Comm Status:
From the RPG HCI, click on **Comms** within the Users area. Capture the status of user lines (1 - 24).

RPG Status:
From the RPG HCI, click on **Status** within the RPG area. The RPG Status window will appear. Click on status within the Message Filters area to deselect. If there are system alarms or errors, they will appear in the status window. Capture this window.

Master System Control Functions statuses:
Click on Comms Status button. This window may need to be resized according to the device selected. Within the Comms Status window, individually select each of the following devices and capture the window for each device: CISCO Switch   CISCO Router   Router Card Status

ATTACHMENT 4 (Continued)

SNAPSHOT INSTRUCTIONS

Click on the BDDS HCI button. Capture the BDDS clients status.

Click on the Power Control button. Capture the window showing power status.

NOTES

The following steps are intended to be the basic procedures for using Snapshot to capture graphic images. The Snapshot application has several additional features not covered here that can be employed to manipulate images of captured graphics and to produce various print effects.

A printer is only configured at the MSCF. The ORPG, and BDDS do not have a printer installed. It will be necessary to save the images to a floppy and transfer them to a machine that has a printer associated to it.

1. If not already visible, ensure the window to be captured is visible on one of the CDE desktops. Recommend all other windows be minimized to reduce screen clutter while capturing each graphic image for print.

2. To start the Snapshot application right click on an open area of the same desktop the image is located on. The `Workspace Menu` will drop down.

NOTE

Image Viewer can also be started directly from the command line of a terminal window by entering: **sdtimage -snapshot&**

3. Click on **Applications**. The `Applications` menu will drop down.

ATTACHMENT 4 (Continued)

SNAPSHOT INSTRUCTIONS

4. Click on **Snapshot**. The two drop down menus will close and two new windows will open. The window titles are `Image Viewer - Snapshot` and `Image Viewer - (None)` (as shown in Figure 1). Once the selected window image is saved, `None` will be replaced by the filename.
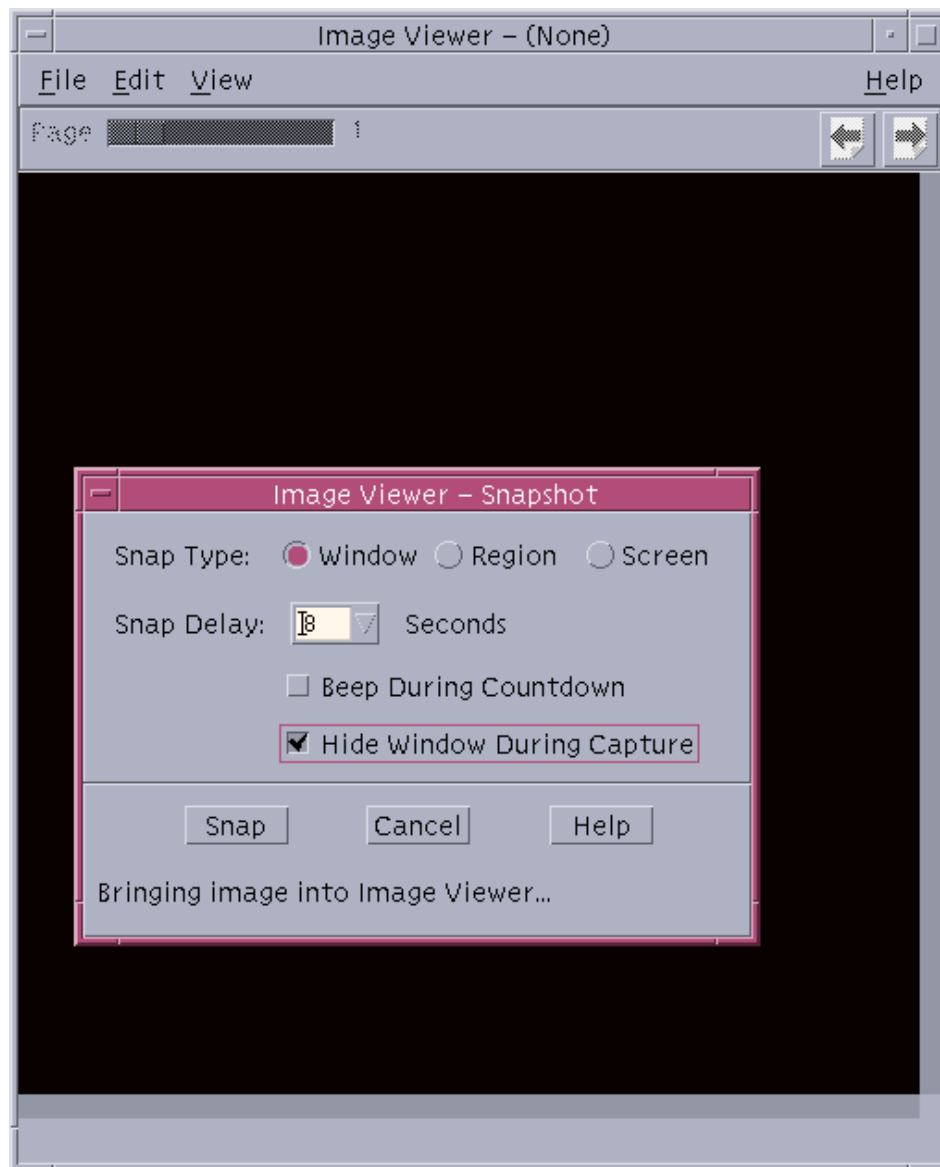
Figure 1 Image Viewer - Snapshot and blank Image Viewer before snapping any image.

ATTACHMENT 4 (Continued)

SNAPSHOT INSTRUCTIONS

5. Using the mouse, check the box next to `Hide Window During Capture` to avoid having any portions of the Snapshot windows included in the picture. A check mark will appear in the box and `Snap Delay` time will automatically change to 8 seconds. The bottom of the window will display the message `Timer adjusted to guarantee correct operation`.

6. Click on the **Snap** button. The bottom of the window displays the message `Use Button 1 to select the window, Esc to cancel`. The mouse pointer changes to crosshairs.

NOTE

> When taking a snapshot of a menu or some other pop-up or pull-down element, you can delay the time between clicking *Snap* and the snapshot actually being taken by increasing the number of *Snap Delay* seconds. After clicking on the `Snap` button, use the extra seconds to bring up the menu or pop-up/pull-down in the window or region being snapped.

7. Click the crosshair pointer inside the window to be captured. The `Snapshot` window will disappear and then reappear 8 seconds later. The message at the bottom of the `Snapshot` window will read `Snap succeeded` once the snapping process is complete. The `Image Viewer - Untitled` window (see Figure 2), displaying the newly snapped image, and an `Image Viewer – Palette` window will also appear.

Category	Units	Min	Max	Th1	Th2	Th3	Th4	Th5	Th6
Velocity	kts	0	246	15	25	35	45	50	60
Composite Refl	dBZ	−32	95	20	30	40	50	60	70
Echo Tops	kft	0	70	30	40	50	60		
SVR Wx Prob	%	0	100	30	40	50	60	70	
VIL	kg/m2	0	80	35	40	45	50	55	65
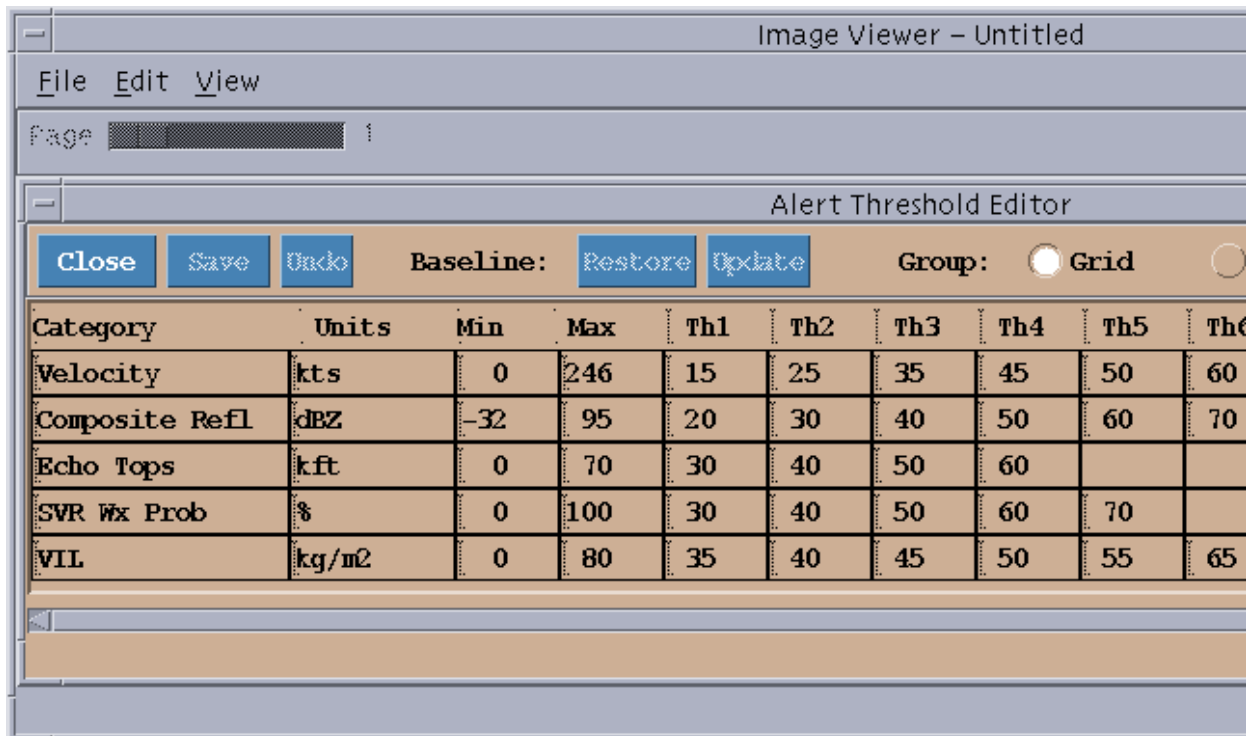
Figure 2 Image Viewer - Untitled Window

ATTACHMENT 4 (Continued)

SNAPSHOT INSTRUCTIONS

NOTES

If the `Hide Window During Capture` button was not checked, the `Snapshot` window will remain visible with the message `Bringing image into Image Viewer` visible at the bottom. If the `Snapshot` and `Image Viewer` windows are obscuring any area of the window being snapped then those parts of those windows will be included in the resulting image (as shown in Figure 3).
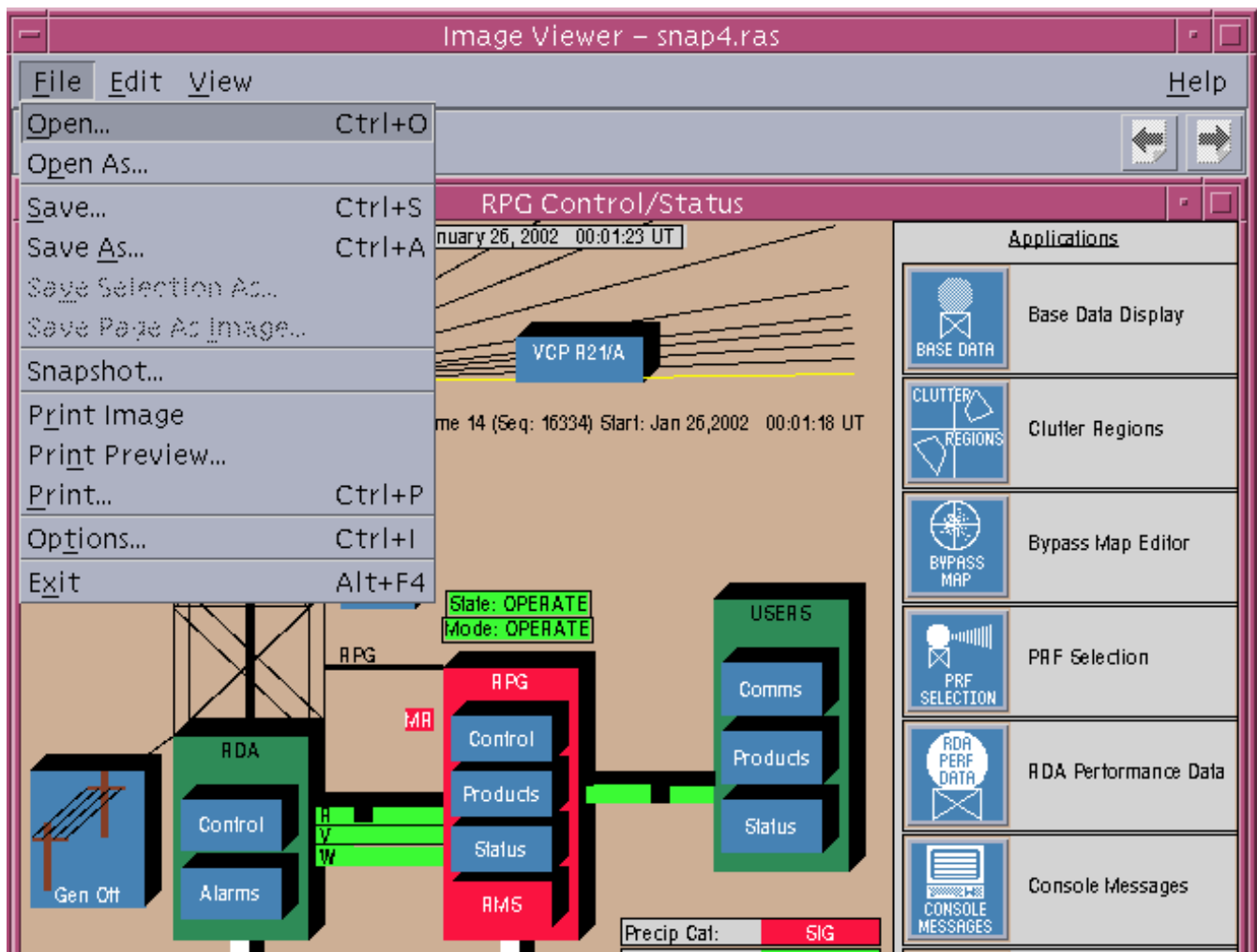
Figure 3 Image Viewer with Snapped Image Showing Drop-Down File Menu

ATTACHMENT 4 (Continued)

SNAPSHOT INSTRUCTIONS

NOTE

Before printing, ensure there is a printer connected to the system.
If not, use the UNIX *ftp* utility or save the image to removable
media to move the image file to a system having print capabilities
such as an MSCF.

8. To print the image, click on **File** on the menu bar of the `Image Viewer` and click on **Print**
    from the drop down menu.

NOTE

The MSCF Phaser 750 color laser printer is very slow. Observe
the feedback window on the printer to verify the printer is turned on
and is processing the print task.

ATTACHMENT 4 (Continued)

SNAPSHOT INSTRUCTIONS

9. In the `Image Viewer - Print` window, change the `Image Size:` to **85%** using the slider bar, and then change the `Image Orientation:` to **Landscape**. Check the **Centered** button to place the image in the center of the print preview box, then click on the **Print** button at bottom of the `Image Viewer - Print` window. The `Image Viewer - Print` windows will disappear and the printer will produce the desired picture. At the bottom of the `Image Viewer - Print` window, the message `Print job queued` will appear.
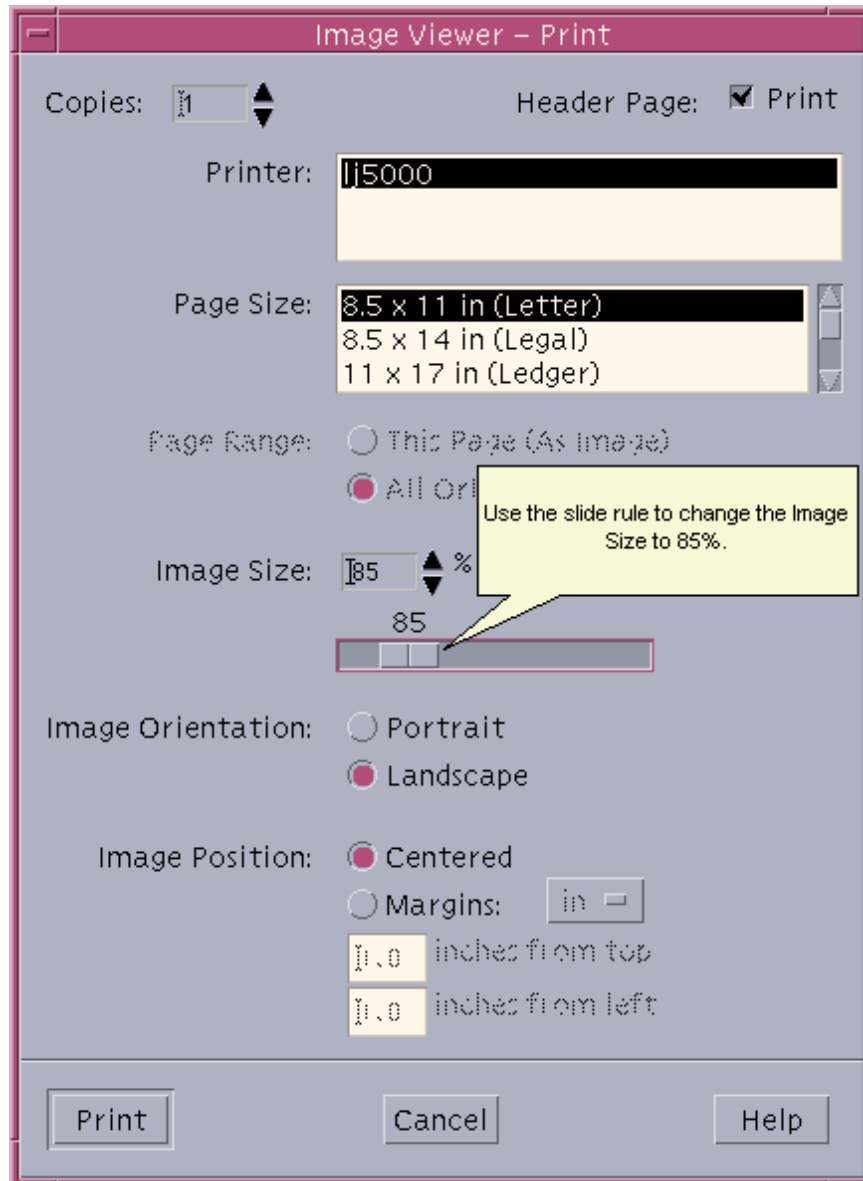
Figure 4 Image Viewer - Print Dialog Window

10. After the first image is finished printing and using the list of screens to capture, bring up the next window to capture.

ATTACHMENT 4 (Continued)

SNAPSHOT INSTRUCTIONS

11. Return to the `Image viewer - Snapshot` window by clicking anywhere in the **Image viewer - Snapshot** window.
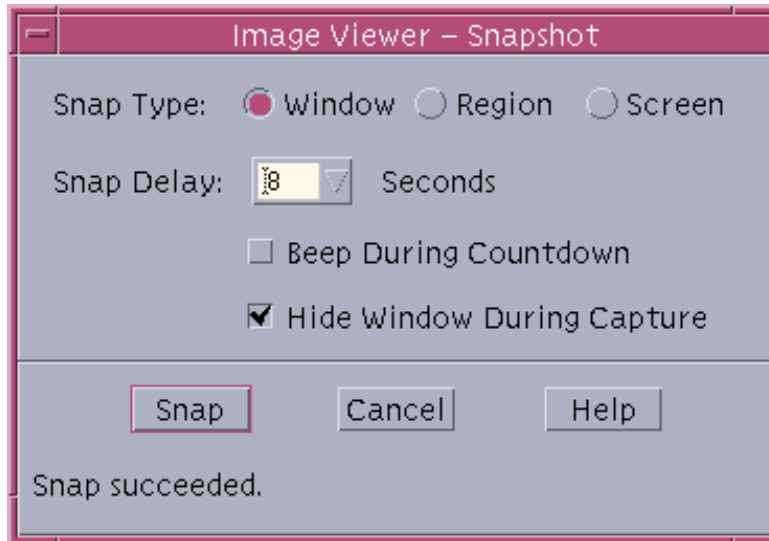
Figure 5 Image Viewer - Snapshot window

12. In the `Image Viewer - Snapshot` window, click on the **Snap** button. The `Image Viewer - Save Snapshot?` window appears, with the message `Snapshot image not saved.  Do you want to save the image?`. Click on the **No** button.
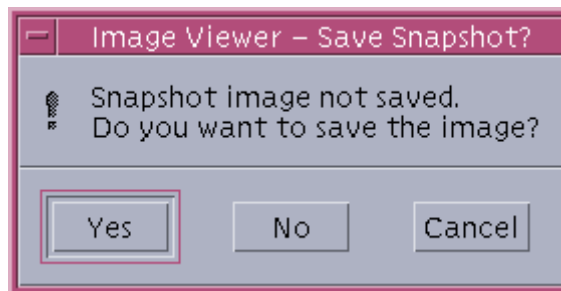
Figure 6 Image Viewer - Save Snapshot? Window

13. Click on the window to print. In approximately 8 seconds a new figure will appear in the `Image Viewer - Untitled` window.

14. In the `Image Viewer - Untitled` window, click on **File** and then click on the **Print...** option from the pull down menu.

ATTACHMENT 4 (Continued)

SNAPSHOT INSTRUCTIONS

15. In the `Image Viewer - Print` window, change the `Image Size:` to **85%** using the slider bar, and then change the `Image Orientation:` to **Landscape**. Check the **Centered** button to place the image in the center of the print preview box, then click on the **Print** button at bottom of the `Image Viewer - Print` window. The `Image Viewer - Print` windows will disappear and the printer will produce the desired picture. At the bottom of the `Image Viewer - Print` window, the message `Print job queued` will appear.
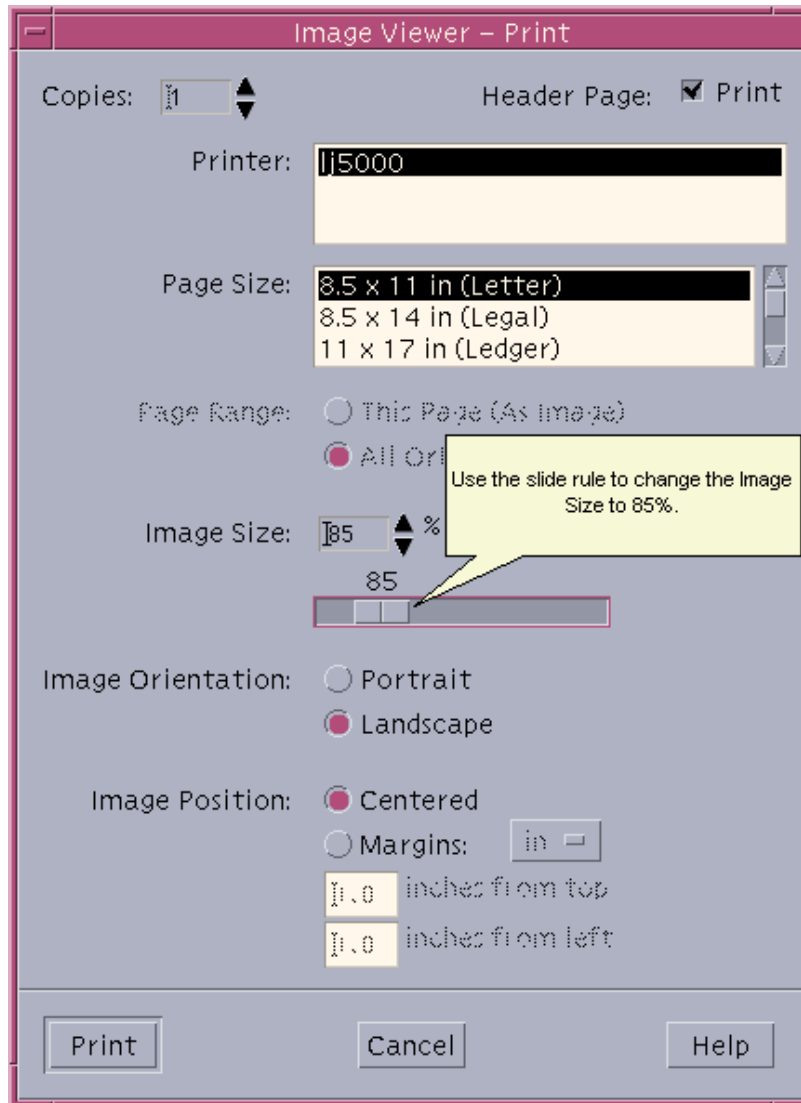

16. Repeat steps 10 through 15 until all of the desired screens are captured and printed.

17. Return to ATTACHMENT 1.

NWS: EHB-6, Software Note 18
DoD: TO 31P1-4-108-599
FAA: EEM Modification Handbook 6345.1 CHG 28, Chap 25

ATTACHMENT 5

EFFECTIVITY

NOTE

The NWS sites which currently possess a DoD MSCF are required to perform and report this modification to that MSCF.

NWS

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
	Eastern Region			
ALBANY	ALBANY, NY	RPG MSCF BDDS	ALY	WN9518
BINGHAMTON	JOHNSON CITY, NY	RPG MSCF BDDS	BGM	WN9515
BOSTON	TAUNTON, MA	RPG MSCF BDDS	BOX	WN9509
BROOKHAVEN	UPTON, NY	RPG MSCF BDDS	OKX	WN9912
BUFFALO	BUFFALO, NY	RPG MSCF BDDS	BUF	WN9528

ATTACHMENT 5 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
BURLINGTON	SOUTH BURLINGTON, VT	RPG MSCF BDDS	BTV	WN9617
CARIBOU	CARIBOU, ME	RPG MSCF BDDS	CAR	WN9712
CHARLESTON, SC	CHARLESTON, SC	RPG MSCF BDDS	CHS	WN9208
CHARLESTON, WV	CHARLESTON, WV	RPG MSCF BDDS	RLX	WN9414
CINCINNATI	WILMINGTON, OH	RPG MSCF BDDS	ILN	WN9710
CLEVELAND	CLEVELAND, OH	RPG MSCF BDDS	CLE	WN9524
COLUMBIA	WEST COLUMBIA, SC	RPG MSCF BDDS	CAE	WN9310
GREER	GREER, SC	RPG MSCF BDDS	GSP	WN9312
MOREHEAD CITY	NEWPORT, NC	RPG MSCF BDDS	MHX	WN9307

E2

ATTACHMENT 5 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
NORFOLK	WAKEFIELD, VA	RPG MSCF BDDS	AKQ	WN9952
PHILADELPHIA	MOUNT HOLLY, NJ	RPG MSCF BDDS	PHI	WN9950
PITTSBURGH	CORAOPOLIS, PA	RPG MSCF BDDS	PBZ	WN9917
PORTLAND, ME	GRAY, ME	RPG MSCF BDDS	GYX	WN9938
RALEIGH/DURHAM	RALEIGH, NC	RPG MSCF BDDS	RAH	WN9306
ROANOKE	BLACKSBURG, VA	RPG MSCF BDDS	RNK	WN9954
STATE COLLEGE	STATE COLLEGE, PA	RPG MSCF BDDS	CTP	WN9925
WILMINGTON	WILMINGTON, NC	RPG MSCF BDDS	ILM	WN9301

ATTACHMENT 5 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
	Southern Region			
ALBUQUERQUE	ALBUQUERQUE, NM	RPG MSCF BDDS	ABQ	WP9365
AMARILLO	AMARILLO, TX	RPG MSCF BDDS	AMA	WP9363
ATLANTA	PEACHTREE CITY, GA	RPG MSCF BDDS	FFC	WP9219
AUSTIN/SAN ANTONIO	NEW BRAUNFELS, TX	RPG MSCF BDDS	EWX	WP9253
AUSTIN/SAN ANTONIO/LAUGHLIN AFB	NEW BRAUNFELS, TX	MSCF	EWX	WP9253
BIRMINGHAM	ALABASTER, AL	RPG MSCF BDDS	BMX	WP9957
BROWNSVILLE	BROWNSVILLE, TX	RPG MSCF BDDS	BRO	WP9250
CORPUS CHRISTI	CORPUS CHRISTI, TX	RPG MSCF BDDS	CRP	WP9251

ATTACHMENT 5 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
DALLAS/FT WORTH	FORT WORTH, TX	RPG MSCF BDDS	FWD	WP9259
EL PASO	SANTA TERESA, NM	RPG MSCF BDDS	EPZ	WP9270
JACKSON, MS	JACKSON, MS	RPG MSCF BDDS	JAN	WP9235
KNOXVILLE	MORRISTOWN, TN	RPG MSCF BDDS	MRX	WP9325
LAKE CHARLES	LAKE CHARLES, LA	RPG MSCF BDDS	LCH	WP9240
LITTLE ROCK	NORTH LITTLE ROCK, AR	RPG MSCF BDDS	LZK	WP9340
LUBBOCK	LUBBOCK, TX	RPG MSCF BDDS	LUB	WP9933
MEMPHIS	MEMPHIS, TN	RPG MSCF BDDS	MEG	WP9334
MIDLAND/ODESSA	MIDLAND, TX	RPG MSCF BDDS	MAF	WP9265

E5

ATTACHMENT 5 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
MOBILE	MOBILE, AL	RPG MSCF BDDS	MOB	WP9223
NASHVILLE	OLD HICKORY, TN	RPG MSCF BDDS	OHX	WP9327
NORMAN	NORMAN, OK	RPG MSCF BDDS	OUN	WP9921
NORMAN/ALTUS AFB	NORMAN, OK	MSCF RBDDS	OUN	WP9921
NORMAN/VANCE AFB	NORMAN, OK	MSCF RBDDS	OUN	WP9921
NORTHEAST ALABAMA	ALABASTER, AL	RPG MSCF BDDS	BMX	WP9957
SAN ANGELO	SAN ANGELO, TX	RPG MSCF BDDS	SJT	WP9263
SAN ANGELO/DYESS AFB	SAN ANGELO, TX	MSCF	SJT	WP9263
SHREVEPORT	SHREVEPORT, LA	RPG MSCF BDDS	SHV	WP9248
SLIDELL	SLIDELL, LA	RPG MSCF BDDS	LIX	WP9919

ATTACHMENT 5 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
TULSA	TULSA, OK	RPG MSCF BDDS	TSA	WP9356
WESTERN ARKANSAS	TULSA, OK	RPG MSCF BDDS	TSA	WP9356
Central Region				
ABERDEEN	ABERDEEN, SD	RPG MSCF BDDS	ABR	WR9659
BISMARCK	BISMARCK, ND	RPG MSCF BDDS	BIS	WR9764
CHEYENNE	CHEYENNE, WY	RPG MSCF BDDS	CYS	WR9564
CHICAGO	ROMEOVILLE, IL	RPG MSCF BDDS	LOT	WR9969
DENVER	BOULDER, CO	RPG MSCF BDDS	BOU	WR9469
DES MOINES	JOHNSTON, IA	RPG MSCF BDDS	DMX	WR9546

ATTACHMENT 5 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
DETROIT	WHITE LAKE, MI	RPG MSCF BDDS	DTX	WR9954
DODGE CITY	DODGE CITY, KS	RPG MSCF BDDS	DDC	WR9451
DULUTH	DULUTH, MN	RPG MSCF BDDS	DLH	WR9745
FARGO/GRAND FORKS	GRAND FORKS, ND	RPG MSCF BDDS	FGF	WR9750
GOODLAND	GOODLAND, KS	RPG MSCF BDDS	GLD	WR9465
GRAND ISLAND	HASTINGS, NE	RPG MSCF BDDS	GID	WR9552
GRAND JUNCTION (RPG)	GRAND JUNCTION, CO	RPG MSCF BDDS	GJT	WR9476
GRAND RAPIDS	GRAND RAPIDS, MI	RPG MSCF BDDS	GRR	WR9635
GREEN BAY	GREEN BAY, WI	RPG MSCF BDDS	GRB	WR9645

ATTACHMENT 5 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
INDIANAPOLIS	INDIANAPOLIS, IN	RPG MSCF BDDS	IND	WR9438
JACKSON, KY	JACKSON, KY	RPG MSCF BDDS	JKL	WR9956
LA CROSSE	LA CROSSE, WI	RPG MSCF BDDS	ARX	WR9643
LINCOLN	LINCOLN, IL	RPG MSCF BDDS	ILX	WR9436
LOUISVILLE	LOUISVILLE, KY	RPG MSCF BDDS	LMK	WR9423
MARQUETTE	NEGAUNEE, MI	RPG MSCF BDDS	MQT	WR9743
MILWAUKEE	DOUSMAN, WI	RPG MSCF BDDS	MKX	WR9965
MINNEAPOLIS	CHANHASSEN, MN	RPG MSCF BDDS	MPX	WR9658
NCL MICHIGAN	GAYLORD, MI	RPG MSCF BDDS	APX	WR9610

ATTACHMENT 5 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
NORTH PLATTE	NORTH PLATTE, NE	RPG MSCF BDDS	LBF	WR9562
NORTHERN INDIANA	NORTH WEBSTER, IN	RPG MSCF BDDS	IWX	WR9534
OMAHA	VALLEY, NE	RPG MSCF BDDS	OAX	WR9553
PADUCAH	PADUCAH, KY	RPG MSCF BDDS	PAH	WR9957
PLEASANT HILL	PLEASANT HILL, MO	RPG MSCF BDDS	EAX	WR9446
PUEBLO	PUEBLO, CO	RPG MSCF BDDS	PUB	WR9464
QUAD CITIES	DAVENPORT, IA	RPG MSCF BDDS	DVN	WR9544
RAPID CITY	RAPID CITY, SD	RPG MSCF BDDS	UNR	WR9662
RIVERTON/LANDER	RIVERTON, WY	RPG MSCF BDDS	RIW	WR9576

ATTACHMENT 5 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
SIOUX FALLS	SIOUX FALLS, SD	RPG MSCF BDDS	FSD	WR9651
SPRINGFIELD	SPRINGFIELD, MO	RPG MSCF BDDS	SGF	WR9440
ST LOUIS	WELDON SPRING, MO	RPG MSCF BDDS	LSX	WR9971
TOPEKA	TOPEKA, KS	RPG MSCF BDDS	TOP	WR9456
WICHITA	WICHITA, KS	RPG MSCF BDDS	ICT	WR9450
Western Region				
BILLINGS	BILLINGS, MT	RPG MSCF BDDS	BYZ	WT9677
EUREKA (BUNKER HILL)	EUREKA, CA	RPG MSCF BDDS	EKA	WT9594
FLAGSTAFF (RPG)	BELLEMONT, AZ	RPG MSCF BDDS	FGZ	WT9375

E11

ATTACHMENT 5 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
GLASGOW	GLASGOW, MT	RPG MSCF BDDS	GGW	WT9768
GREAT FALLS	GREAT FALLS, MT	RPG MSCF BDDS	TFX	WT9950
LAS VEGAS	LAS VEGAS, NV	RPG MSCF BDDS	VEF	WT9386
LAS VEGAS/EDWARDS AFB	LAS VEGAS, NV	MSCF	VEF	WT9386
LOS ANGELES	OXNARD, CA	RPG MSCF BDDS	LOX	WT9295
PHOENIX	PHOENIX, AZ	RPG MSCF BDDS	PSR	WT9278
PORTLAND, OR	PORTLAND, OR	RPG MSCF BDDS	PQR	WT9698
RENO (RPG)	RENO, NV	RPG MSCF BDDS	REV	WT9488
SACRAMENTO	SACRAMENTO, CA	RPG MSCF BDDS	STO	WT9914
SACRAMENTO/BEALE AFB	SACRAMENTO, CA	MSCF	STO	WT9914

E12

ATTACHMENT 5 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
SAN DIEGO	SAN DIEGO, CA	RPG MSCF BDDS	SGX	WT9918
SAN FRANCISCO	MONTEREY, CA	RPG MSCF BDDS	MTR	WT9933
SAN JOAQUIN VALY	HANFORD, CA	RPG MSCF BDDS	HNX	WT9389
SANTA ANA MTS	SAN DIEGO, CA	RPG MSCF BDDS	SGX	WT9918
SEATTLE	SEATTLE, WA	RPG MSCF BDDS	SEW	WT9922
TUCSON	TUCSON, AZ	RPG MSCF BDDS	TWC	WT9274
YUMA (RPG)	PHOENIX, AZ	RPG MSCF BDDS	PSR	WT9278
Pacific Region				
SOUTH KAUAI FAA	HONOLULU, HI	MSCF	AFC	WV9904
SOUTH SHORE FAA	HONOLULU, HI	MSCF	AFC	WV9904

E13

ATTACHMENT 5 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
	Miscellaneous			
NATL CLIMATIC DATA CTR (NCDC)	ASHEVILLE, NC	RPG MSCF	NCCN7	WN9312
NRC #1	KANSAS CITY, MO	RPG MSCF BDDS	NRCM7	WG9163
NRC #2	KANSAS CITY, MO	RPG MSCF BDDS	NRCM7	WG9163
NWSHQ TESTBED(RPG)	SILVER SPRING, MD	RPG MSCF BDDS		WG9310
PRC RPG	RESTON, MD	RPG MSCF BDDS	PRCV2	WG9310
ROC DOD RPG (KREX)	NORMAN, OK	RPG MSCF		WG9420
ROC FAA REDUNDANT (RPG 1)	NORMAN, OK	RPG MSCF RBDDS	CRIO2	WG9410
ROC FAA REDUNDANT (RPG 2)	NORMAN, OK	RPG	CRIO2	WG9410

ATTACHMENT 5 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
ROC3 NWS RPG	NORMAN, OK	RPG MSCF BDDS		WG9410
ROC4 NWS RPG	NORMAN, OK	RPG MSCF BDDS		WG9410
TRAINING CENTER #1 NWSTC	KANSAS CITY, MO	RPG MSCF	TTCM7	WB9612
TRAINING CENTER #2 NWSTC	KANSAS CITY, MO	RPG MSCF	TTCM7	WB9612
WDTB RPG	NORMAN, OK	RPG MSCF		
EVANSVILLE (Delivery to Contractor)	EVANSVILLE, IN	RPG MSCF		
DoD				
ALTUS AFB	FREDERICK, OK	RPG	FDR	FE4419
BEALE AFB	OROVILLE, CA	RPG	BBX	FE4686
DYESS AFB	MORAN, TX	RPG	DYX	FE4661
EDWARDS AFB	BORON, CA	RPG	EYX	FE2805
KEESLER AFB MNTC TRNG A	KEELSER AFB, MS	RPG MSCF	BIX	FE3010
KEELSER AFB MNTC TRNG B	KEELSER AFB, MS	RPG MSCF	BIX	FE3010

E15

ATTACHMENT 5 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
VANCE AFB	CHEROKEE, OK	RPG	VNX	FE3029
VANDENBERG AFB	ORCUTT, CA	RPG	VBX	FE4610
		MSCF		
		RBDDS		
FAA				
SOUTH KAUAI FAA (RPG 1)	SOUTH KAUAI, HI	RPG	HKI	699211
SOUTH KAUAI FAA (RPG 2)	SOUTH KAUAI, HI	RPG	HKI	699211
SOUTH SHORE FAA (RPG 1)	NAALEHU, HI	RPG	HWA	699201
SOUTH SHORE FAA (RPG 2)	NAALEHU, HI	RPG	HWA	699201

E16

ATTACHMENT 6

ORPG SOFTWARE BUILD 1.2 LOAD COMPLETION FORM

Site Name: _____

Site Identifier: _____

Total Time to Complete this Modification Document: _____

Technician's Name(s): _____

Technician's Phone Number: _____

Date Completed: _____

Equipment Modified (SID)   RPG _____   MSCF _____   (R)BDDS _____

Problem(s) Encountered:
_____

_____

_____

_____

Upon completion of this form, return the information to the ROC using one of the four methods below:

   1. Mailing Address: Program Branch, Retrofit Management Team
                      WSR-88D Radar Operation Center
                      3200 Marshall Ave., Suite 101
                      Norman, OK 73072-8028

   2. FAX Number: (405) 366-6553
                      ATTN: Retrofit Management Team

   3. E-mail Address: NEXRAD.Logistics@noaa.gov

   4. Web Version: http://www.roc.noaa.gov/ssb/logistics/completion.asp

ENGINEERING MANAGEMENT REPORTING SYSTEM
MAINTENANCE RECORD

Document Number: G 51301

General Information

Field	Value
1. Open Date	08 / 06 / 02
Time	0900
2. Initials	DKR
3. Response Priority (check one)	Immediate ○ / Routine ○ / Low ○ / Not Applicable ☒
4. Close Date	08 / 06 / 02
Time	1400

5. Description: INSTALL NEW SOFTWARE IAW SOFT NOTE 18

Equipment Information

Field	Value
6. Station ID	TOP
7. Equipment Code	RPG
8. Serial Number	DC001
9. TM	M
10. AT	M
11. How Mal.	999

12. EQUIPMENT OPERATIONAL STATUS TIMES

a. Fully Operational	Partly Operational	b. Logistics Delay	c. All Other	d. Logistics Delay	Not Operational	e. All Other
						5:00

13. Parts Failure Information

Block #	a. ASN	b. NSN	c. TM	d. AT	e. How Mal.	f. Qty.	g. Maint. Hrs.
1							
2							
3							
4							
5							

14. Work Load Information

Type	Staff Hrs.
a. Routine	
b. Non-routine	
c. Travel	
d. Misc.	5:00
e. Overtime	

Miscellaneous Information

15. Maintenance Comments: INSTALLED SOFTWARE BUILD 1.2

16. Initials: DKR

17. SPECIAL PURPOSE REPORTING

a. Mod. No.	b. Mod./Act./Deact. Date	c.	d.	e.
S18	08/06/02			

18. CONFIGURATION MGMT. REPORTING (use as directed)

ASN	Vendor Part Number (New Part)	Vendor Part Number (New Part)	Serial Number (Old Part)	Serial Number (New Part)